THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—JANUARY, 1881.—NO. 1.

Original Lectures.

ARTICLE I.

LECTURE VI, IN THE COURSE ON PRACTICAL MEDICINE IN THE CHICAGO MEDICAL COLLEGE, MEDICAL DEPARTMENT NORTHWESTERN UNIVERSITY. By N. S. DAVIS, M.D., LL.D.

The Examination of the Sick—By Inspection, Oral Questions, Palpation or Touch, Instrumental aid; The Principles of Diagnosis; Therapeutic Methods, etc. Reported by L. Stone, Stenographer.

One of the most delicate and important duties of the physician is to examine his patient. The object of such examination is to ascertain the location, extent, nature, stage of progress, and coincident derangements, of whatever disease or diseases may afflict the patient, together with the causes that may have been efficient either in producing it or perpetuating its existence. To accomplish this object fully, requires, on the part of the practitioner, patience; kindness; gentleness of manipulation; close, undivided attention; the mental discipline that gives quickness of perception, and accuracy of comparison and induction; with

that easy boldness which quietly assumes nothing to be immodest that is necessary for a full understanding of the nature and extent of the disease, and yet which sacredly avoids all not thus necessary. To place the patient at ease and at the same time secure attention, it is best to commence the examination with a few leading questions, such as, How long have you been unwell? How did your sickness commence? Do you suffer much pain; and if so, where? Is it sharp, dull, burning, constant, or paroxysmal? Having thus introduced the examination far enough to allow any feeling of trepidation or embarrassment that might have been felt by the patient to have subsided, and at the same time to have obtained an outline of his particular suffering, you should, without apparent design, pass directly to a methodical examination so complete as to elicit a correct knowledge of all the important functions and processes performed in the system. By simple inspection you observe the physiognomy or expression; the hue of the skin; the position or attitude; voluntary and involuntary movements; general contour or relative development of parts; and the particular appearance of the tongue, with such other parts as may be the seat of special complaint. All this, except the last two items, may be accomplished while proceeding with the oral part of the examination.

After the leading introductory questions already suggested, the further prosecution of the oral examination should take such direction as to elicit as full an account of the several important functions as the patient is capable of giving. Perhaps the most natural and easy method is to interrogate, consecutively, concerning the organs engaged in the work of digestion, assimilation and nutrition; those engaged in the opposite process of disintegration and excretion; then those constituting the nervous system, both cerebro-spinal and ganglionic; and finally, those concerned in reproduction, especially in females past the age of puberty. When the patient is too young or too sick to answer properly the necessary inquiries, the same should be directed to the nurse or whoever has immediate care of the patient. There are some diseases, like those of a typhoid character, that always blunt more or less the sensibilities of the patient, and often render the manifestations of mind so inactive as to cause very im-

perfect or erroneous answers to be given. In other cases we have just the opposite, namely, such an increase of nervous sensitiveness as to cause the most extravagant expressions and wildest exaggerations. It is proper and desirable always to have the nurse or some reliable member of the family present during the examination of such patients, because they will greatly assist in correcting erroneous statements and in supplying defects in the patient's memory. And it is a good rule in all delicate cases, and such as involve apparent mental derangement, to have a free confidential interview with the nurse alone, during which you can canvass the statements and condition of the patient, without danger of either exciting his suspicions or his anger. I need not say that this should be done entirely out of sight and hearing of the patient. Nothing so quickly excites the fears or the suspicions of a conscious patient, as private conversation or *whispering* in his room. All conversation in the presence of the sick should be in a mild, kindly tone of voice, just loud enough to be easily understood, but wholly free from all abrupt and boisterous qualities. The correctness of the information obtained from patients will depend much on the manner in which questions are asked. If they are too general in their character, the patient will often fail to comprehend their full meaning and give erroneous answers in consequence. For instance, many, when asked if their food digests well, answer promptly, yes; and yet, when asked more particularly, acknowledge that the food often lies heavy in the stomach after eating, or that they have frequent belching of gases, and sometimes acid eructations. So, too, in regard to excretions, I have seen many patients, who, when asked "if their bowels were regular?" answered without any hesitation, "yes, they are all right." But when asked specifically how often they had a fæcal evacuation, some said, once in three or four days; others, three or four times every day; while others said once a day. The better way is to ask directly how often the patient has an evacuation from the bowels, and what is the color and consistence of the evacuation. The some rule is still more necessary in obtaining a knowledge of the renal secretion. Unless their attention has been previously called to the subject, many patients will not be able to give a reliable statement either as to the

quantity or quality of the urine, but will answer in general terms that they think it is about natural. Others will say they "make a great deal more" than natural, when they really make it very *often*, but only a little at a time. Patients laboring under low forms of fever and paralytic affections, not unfrequently have either partial or complete paralysis of the muscular coat of the bladder. This is liable to cause, first, retention until a certain degree of distention of the bladder, and then dribbling so as to keep the clothing wet, or the passage of only a few spoonfuls at a time. In all such cases, in addition to careful inquiries of the nurse, the physician should daily examine the hypogastric region sufficient to determine whether the bladder is distended or not. I have known a neglect of this latter rule to lead to several serious mistakes. It is only a few weeks since that I was requested to see a young man reported to be very dangerously sick from disease of the brain. On calling at the house, I met the attending physician, and after listening to a brief history of the case, entered the sick man's room. The patient was entirely comatose; chin dropped; pupils a little dilated; breathing irregular; skin clammy; pulse frequent and very feeble; and frequent irregular muscular twitchings. The latter with a strong urinous odor about the bed, caused me to inquire whether the patient had passed his water regularly? The attending physician answered in the affirmative. Turning to the nurse, I asked *when* he passed his water last? The answer was, "he passes it every little while, and his bed is wet now." How long has he passed his water in the bed? I inquired, at the same time passing my hand down over the region of the bladder. "Three days," was the reply. The hand at once detected a great degree of fullness in the hypogastrium, which further examination proved to be owing to the presence of a bladder so distended that its fundus reached the umbilicus. The introduction of a catheter gave exit to an ordinary chamber vessel full of ammoniacal urine. The attending physician, not a little chagrined, excused himself by saying he had not examined the region of the bladder because the nurse had assured him every day that the patient had passed his water freely. In most cases of chronic disease presenting obscure questions in relation to their pathology, and especially if accom-

panied by serous or dropsical effusions, the physician should directly examine the urine, aided both by chemical tests and the microscope.

Palpation or Touch. While the acquisition of an easy, systematic, and accurate method of oral examination, is of great importance to the physician, it is never sufficient to give him a full and correct knowledge of the condition of his patient, without the aid of direct contact or touch. By the latter we gain a knowledge of the temperature and other qualities of the skin; the state of the circulation as indicated by the force, frequency, and regularity of the pulse; the fullness and regularity of respiration; the tension or flacidity of muscles; the existence of hyperæsthesia and anæsthesia; the existence or non-existence of indurations, enlargements, tumors, abscesses, dropsical effusions, etc., and the physical condition of the parts within the chest and the abdomen. In young children, and in patients of all ages whose mental perceptions are disordered by disease, direct physical examination coupled with inspection constitute our chief means for acquiring a knowledge of the morbid conditions under which they may be laboring.

Instrumental Aid. To render this part of the examination of patients more complete, various instruments have been constructed, some of which are of great practical value. The ophthalmoscope; otoscope; rhinoscope; laryngoscope; stethoscope; microscope; sphygmograph; thermometer; urinometer; speculums; with test tubes, spirit lamp, and chemical re-agents, constitute the chief instruments which the physician of to-day may bring to his aid in determining the existence, nature, stage of progress, and tendencies of disease.

I do not say that a physician cannot acquire skill, and even superior skill, both in the diagnosis and treatment of disease, without familiarity with the use of many, and perhaps all of these instruments; yet it must be admitted that each one of them, properly used, is capable of adding both to the extent and accuracy of our knowledge concerning the morbid conditions it is designed to aid in investigating. It is desirable, therefore, that every general practitioner should be familiar with the use of all these instruments, and, as far as practicable, keep them con-

stantly within his reach. No detailed descriptions, or illustrative drawings, can give you an adequate knowledge of the articles themselves, or of their practical application. Such knowledge can be obtained only by direct examination and actual clinical use. Happily for you, as a class, the daily hospital and dispensary clinics which constitute a prominent part of the course of instruction in this institution, will give you ample opportunities for becoming acquainted, individually, with the practical application of every instrument and appliance that may aid in the examination and treatment of the sick. As already intimated, the primary object of all our examinations of the sick, is to ascertain whether they are afflicted by disease, and if so, its nature, extent, duration, etc. In other words, to arrive at as full and complete a diagnosis as possible.

But what constitutes a complete diagnosis? Certainly not the mere classification or naming of the disease; for a very superficial examination may enable the practitioner to determine that a patient has typhoid fever, pneumonia, or rheumatism, and yet leave him with a very imperfect knowledge of the pathological changes that had taken place in the solids and fluids of the body. A full and practical diagnosis in any given case embraces: first, a knowledge of the general nature of the disease; second, the pathological changes that have taken place, which determine the stage of advancement; third, the nature and extent of the complications, if any, that have supervened; and fourth, the physical and mental condition and habits of the patient prior to the present sickness. The first of these items gained, will enable you to name the disease; the second and third to clearly comprehend the present pathological condition of the patient and found thereon rational indications for treatment; while the fourth will often enable you to anticipate the tendency or direction which other changes will take during the further progress of the case.

The making of a full, practical diagnosis is, therefore, the most important, and often the most perplexing of all the duties devolving on the medical practitioner. If he succeeds in obtaining a clear and correct knowledge of the nature, progress and tendencies of the disease under which his patient is laboring, it

requires but a short and easy process of induction, to arrive at the rational indications for treatment. That is, to determine what needs to be done for the purpose of either mitigating or curing the disease, and re-establishing the health of the patient. And having determined thus logically the indications for treatment which the case requires, a competent knowledge of the principles of hygiene, and of the materia medica, will readily suggest the best means for fulfilling the indications presented. I say a competent knowledge of the principles of *hygiene* as well as of materia medica, because I hope none of you will make so great a mistake, as to suppose the treatment of disease consists solely in the administration of drugs.

A large part of the diseases coming under the care of the physician, are caused by errors in diet, drinks, clothing, ventilation and other matters included under the term hygiene; and no one can attain the highest degree of success as a practitioner, who does not fully appreciate the importance of careful attention to the hygienic influences affecting his patients.

The object of such attention is two-fold: namely, to remove or correct such erroneous habits and conditions as may be still acting as causes; and the substitution of such as will positively aid in the restoration of the patient. A comfortable temperature; a sufficient supply of fresh, pure air; cleanliness; a careful adaptation of the quantity and quality of food and drink to the capacity of the digestive organs to receive and assimilate it; and a quiet, cheerful, hopeful mental influence, are hygienic conditions of universal applicability in the management of the sick. I by no means approve of the modern doctrines of *expectancy*, which assumes that diseases must run their natural course, and that *art* can do little more than properly regulate the hygienic conditions of the patient, and leave the rest to that intangible something called *nature*.

And yet I cannot too strongly urge upon you the importance of making yourselves thoroughly familiar with the facts and principles of public and personal hygiene, and constant attention to their application in the daily routine of practice. It would not be inappropriate to represent hygiene proper as bearing much the same relation to materia medica that physiology does to pathology.

Therapeutic Methods. Before closing this lecture I must invite your attention to a few thoughts concerning the principal therapeutic methods, or systems as they are sometimes called, that have found advocates among the leading members of the profession, in this and the preceding generation. Since the earliest periods of medical history, therapeutics, or the application of remedies in the treatment of diseases, have been made to conform more or less closely to the co-existing ideas or doctrines in relation to the nature of disease itself. When the nature and phenomena of diseases were regarded as dependent on certain chemical processes called concoction, fermentation, crises, etc., the prevalent therapeutic system was founded on corresponding chemical notions, and had for its leading objects the hastening of the supposed concoctions, the maturing of the morbid humors, and their expulsion or neutralization.

When the theories of vitalism gained the ascendency, and all diseases were regarded as involving either debility (direct or indirect), or irritation, the prevalent therapeutic ideas were soon found aggregated into two leading and opposing systems. The one, founded on the pathological doctrine of debility, had for its leading object *stimulation*. The other, suggested by the idea of irritation, excitement, etc., had for its purpose diminution of excitement by sedation and evacuation, and hence popularly termed antiphlogistic. During the first quarter of the present century the pathological doctrines of irritation and inflammation gained their most complete control over the mind and practice of the profession. Almost every morbid condition was referred to one or the other of these processes; and as a consequence bleeding, general and local, emetics, purgatives, and alteratives were in constant requisition in the treatment of even the most trivial ailments. But coincident with this supremacy of the antiphlogistic method in therapeutics, came the rapid development of organic chemistry; the application of the microscope to the study of minute anatomy, both healthy and morbid; and the discovery of the fact that many acute diseases were self-limited in duration and capable of progressing to recovery without the active interference of art. By the first, our knowledge of the composition and properties of the various morbid products, whether in the

tissues, the blood, or the secretions, was greatly increased; and the doctrines of exclusive vitalism began to yield to a recognition of zymotic and blood diseases. By the second, histological investigations were pushed in every direction, unfolding the minute anatomy of all structures, healthy and morbid, and culminating in the doctrine of *cell* growth as the basis of organic structures and the Cellular Pathology of Virchow. By the third, a distrust or skepticism concerning the curative powers of medicines was rapidly engendered, and a confidence in the restorative processes of nature correspondingly increased.

This tendency soon found marked expression in the writings of Jacob Bigelow, John Forbes, O. W. Holmes and others, and did not stop until it had effectually checked the heroic use of active remedial agents that had been developed under the preceding doctrines of inflammation and antiphlogistic therapeutics. Under these various influences the former theories or systems of medicine have been abandoned, and yet no other one law, either pathological or therapeutical, has succeeded in gaining any general control over the professional mind. The last twenty years have been characterized by great activity in the accumulation of facts, and the multiplication of experiments, in almost every department of medical science.

Indeed, it may be regarded as preëminently an era of observation and independent research, untrammeled by authority. And yet, you must not imagine that the present, with all its independence of thought, activity of observation, and vast accumulation of facts, is free from the influence of fanciful theories and bold attempts at generalization. The human mind, in the present, as in all the ages of the past, is not only prone to generalize—to frame hypotheses based on a limited number of facts, but having gained a favorite standpoint, to see all else through light radiating from that focus. Hence, the enthusiastic microscopist, after tracing all organized structures to formation out of primary cells and structural changes, whether healthy or morbid, to normal and abnormal cell evolutions, naturally enters upon the study of etiology with the favorite instrument in hand and soon finds organic germs, either animal or vegetable, in the blood, the secretions or the excretions of patients laboring under almost every variety of

disease. And these germs are at once heralded as the efficient cause of the diseases with which they are associated. It requires but a hasty glance over the medical literature of the day to see that we have a large class of writers and investigators who are already referring the origin and propagation of cholera, yellow-fever, influenza and other epidemics, as well as many of the endemics, to organic germs. As all these organic germs have their definite periods of development, maturity, propagation and decline, it is consistent and natural to infer that the diseases to which they give rise should also have a definite course to run, which cannot be materially altered by treatment. Hence the *therapeutic* doctrines of this class are fairly expressed in the words palliation and expectancy, while they place great emphasis on hygiene and preventive measures. Another class, with their stand-point of observation in the laboratory of the organic chemist, see in the living system only a complicated series of chemical actions and reactions, taking place in the blood, and between the constituents of that fluid and the organized tissues. So long as these processes are well balanced the evolution of caloric, electricity and nerve force is natural and health is preserved. But when, from any cause, the equilibrium is disturbed by some change in the chemical factors, the results are also abnormal and disease is established. By this class we have all the ancient doctrines of humoralism revived under the modern terms septicæmia, zymosis, blood degeneration, etc. Their therapeutics, are, of course, largely antiseptic and antidotal.

A third class have their stand-point of observation in the physiology and pathology of the nervous tissues, and they find little apparent difficulty in satisfying themselves, at least, that almost every variety of action that takes place in living matter, whether healthy or morbid, is under the control of nervous influence.* With such the chief end of therapeutics is to modify the various morbid conditions of structure and function in nerve matter.

But a fourth, and much larger class than either of the foregoing, possessing no definite scientific or theoretical stand point of observation, being swayed by the general current of reaction from

* See Brown-Séquard's Lecture in the Toner Course at Washington, D. C., 1873.

the antiphlogistic system, and captivated partly by the simplicity of the doctrine that all disease is a diminution of life,* and partly by the plausible eulogies of "nature" and *her* all-controlling power† over disease, they have become essentially skeptical in therapeutics, and content to regulate the hygiene of the sick-room, amuse the patient with placebos, and wait for "nature" to cure the disease. Or, more properly perhaps, wait for the disease to complete its course and disappear; for we find the greater part of this class not only skeptical in regard to the curative powers of medicines, but also firm believers in the doctrine that diseases have an independent existence marked by growth, maturity and decline, which makes them in a great measure independent of the influence of medication.‡ At a period when investigations are pushed with so much vigor, in every direction; when new facts are constantly appearing, and old facts are being presented in new aspects; and when so much that is recognized as a part of medical science is but partially or imperfectly known, it is not strange that our literature should be filled with contradictions, better calculated to bewilder than to enlighten the student.

And yet, gentlemen, if you will patiently study the views I have presented to you in the preceding lectures, concerning the elementary forms of disease, the methods of investigation, the indications for treatment, and the principles governing the application of remedies, you will be able to follow me in the study of special pathology and therapeutics, in such a way as to become rational and efficient practitioners; neither investing disease with the attributes of independent existence and self-limited duration, nor regarding the curative powers of medicine with a melancholy vacillating skepticism.

There is one fact in therapeutics that I wish to impress indelibly upon your minds. It is, that the special influence of any and every remedial agent depends much upon the actual condition of the patient at the time it is administered.

For instance, a remedy that, administered in health or in some conditions of disease, would produce a direct sedative or debilita-

* See Chambers.

† See Essays of Bigelow, Forbes and Holmes.

‡ See Dr. Gibson's Address before the British Medical Association in 1870.

ting influence; if given in some other conditions, would result in relieving the sense of oppression and weakness, and adding to the strength of the patient. All writers class veratrum viride, aconite and digitalis, among the sedatives, yet I have seen many patients so debilitated by insufficient oxygenation and decarbonization of the blood, caused by an irregular, tremulous action of the heart, that they could not walk across their room, who when placed enough under the influence of these articles to render the heart slow and steady in its beat, could walk or ride with ease. I have seen patients in the first stage of pneumonia, with the face deeply suffused with redness, the breathing short and oppressed, the pulse frequent and weak, and the feeling of prostration so marked that they were unable to rise from the bed, so relieved by one prompt, free bleeding, that they could not only sit up, but walk about their room with ease. What are recognized as tonics and stimulants, given to the same patients in the same stage of the disease, instead of strengthening, would have added to the debility of the patient by increasing the local vascular fullness. Again, the same quantity of an anodyne or anæsthetic that might be required, simply to render a patient comfortable when suffering from delirium tremens or some neuralgia, might produce dangerous or even fatal effects if given to the same patient when well or the nervous system not disturbed. Hence, I repeat that the general effect of any and every remedy will be determined very much by the condition of the patient at the time of its administration.

And I can give you, gentlemen, no more important therapeutic law, or general rule of action, than to so investigate every case, as to gain a clear and definite conception of the existing pathological conditions, and then apply such remedies as are most accurately calculated to remove, both the morbid conditions and the causes on which they depend, without regard to either nosological arrangements or classifications of the materia medica. When the case is so obscure that a satisfactory idea of the actual morbid conditions cannot be obtained with all the aids for making a proper diagnosis that are within our reach, then be content to palliate symptoms as they are presented, from day to day, by mild means, rather than hazard doing positive injury by a blind exhibition of more active remedies.

Original Communications.

ARTICLE II.

PRESIDENT'S ADDRESS. By W. H. BYFORD, M.D., before the Chicago Gynæcological Society, at the Second Annual Meeting, Nov. 15, 1880.

GENTLEMEN FELLOWS: By your partiality in electing me President of the Chicago Gynæcological Society, you have placed me under an obligation for an address.

In considering the matter of a subject it has seemed to me proper to devote the short time I propose to occupy in tracing, in a concise way, the history of gynæcology in this city. I do not design to do more than give a sketch or outline of the subject, leaving those present to fill up the deficiencies.

If I should say less about obstetrics and diseases of children than of the diseases of women, I am sure I shall be excused, for the double reason, that I know less about them, and that gentlemen more interested in those departments of study will some day be called upon to fill up the hiatus by having the office of president thrust upon them.

It seems hardly creditable that gynæcology as a special study has been almost wholly developed within my recollection. When I studied medicine, the diseases of women outside of those immediately connected with pregnancy and child-bed were very imperfectly understood; and in the lectures by teachers in the colleges did not occupy half a dozen days. And while general practitioners knew very little of them, because they were not taught, and because there were no books upon the subject, they were very little behind the professors. It was not till a short time before I came to Chicago that gynæcology began to assume

definite shape. Up to 1845, the French, through three or four illustrious teachers, as Lisfrane, Recamier and Vulpean had arrived at unusual correctness in diagnosis, and consequently, for those times, great efficiency in treatment.

In 1845, Dr. J. H. Bennett, who had been interne in the French hospitals, and had become thoroughly imbued with the teachings of the Great Masters in the French capital, published the first edition of his works on the uterus, and by his positiveness, perspicuity of style and enthusiasm captivated the young men in the profession. It was so comforting to the junior practitioner to be led by demonstrative facts out of the maze of uncertainty into a field of tangible reality, that many embraced his doctrines and confidently committed themselves to his practice. An impetus of no mean importance was given in this country to the progress of the ideas promulgated through Bennett by Prof. C. D. Meigs, himself an enthusiast, embracing and urging a similar course of teaching.

Shortly previous to, at the time of, and subsequent to the publishing of Bennett's books, Simon and Koeberle, respectively of Germany and Alsace, were exhibiting equal fervor in the cultivation of our branch of medical science, and Simpson, of Scotland, was grafting upon the old English stem so many novelties as to yield an entirely different fruit to that it had ever borne before; and our own immortal Sims and Atlee were more quietly yet not less efficiently working surgical problems that overturned the whole gynæcological fabric of former times and established upon its ruins not dogmatic but rational gynæcology.

The harvest of such vast efforts afforded work for many reapers; and there arose in Germany such men as Carl Braun, the elder and junior, Martin Schroeder, Scanzoni and a host of others, Tyler Smith, Barnes, Hewitt, Atthil, Spencer Wells and many more in England; while Peasley, Thomas, Emmet, Goodell, Battey and others entered the list in this country. Then the race began and never at any time have such strides of progress been made by any body of men as the gynæcologist of the last quarter of a century. The field of research was new, inviting and remunerative; the men were young, energetic learners, and ambitious, and if at first they started off as disciples of some

particular school, they soon became masters; their labor assumed such an individuality and often originality that created an accumulating store of knowledge which will mark this age in gynæcology with as durable, glorious and much more beneficent fame than the literature of the age of Elizabeth characterises that period of English history.

The gynæcologists of our time have availed themselves of all that is valuable in the general subject of therapeutics and surgery, and the special subjects springing from them. The microscope, stethoscope, thermometer, sphygmograph, test tube, in fact all the instruments used in the rudimentary and practical branches of medicine, besides those peculiar to their own branch of practice, have been turned to advantage. I dare not try to give you all the particular improvements which have grown out of and been appropriated by those engaged in this hot pursuit of knowledge. Ovariotomy, oöphorectomy, hysterotomy, hystereotomy, tracheloraphy, perineoraphy, the cure of vesico-vaginal fistula and many others of the most difficult and most beneficent operations, most of them originating with the gynæcologist, and the remainder plucked from the category of general surgery, bound in our magnificent fasciculus, and given the title of gynæcological surgery.

Perhaps, gentlemen and fellows, it may be necessary for me to apologize for this digressive panegyric of our subject, but as so much of these things have transpired during my time and as in them I have been an humble but interested participator, I venture to hope you will not require it of me.

Now, to come down to the gynæcology of Chicago. Before entering into the details allow me to say something of the different schools of gynæcology, imperfect as they were when I commenced my labors in this city. There were at least three different and well pronounced theories of uterine disease, which you know, after all, form the main bulk of our practice.

The French theory was, that inflammation and ulceration were the prime conditions of all uterine cases, and all the accompanying states of the organ the consequences, and were to be cured by local treatment. The teachings of this school, as I have shown you, was first given to the English speaking peoples by

Dr. Bennett, and had gained great ascendancy at that time in this country. The English school, represented by Bigby and the earlier works of West, promulgated the doctrine that the diseases of the uterus were the consequence of general disorder of the system, and that general treatment of an appropriate character would cure them.

The American school, as represented by Chapman, Dewees and Hodge, the renowned trio of the University of Pennsylvania, taught that displacements of the uterus were the prime and governing factors in uterine ailments, and that support was the great requisite. I need not tell you that the teachings of this school is perpetuated, and one of its glorious old masters immortalized, by the invention of Hodge's pessary. In some of its many forms it has everywhere prevailed and carried with it the name of Hodge into every civilized community on the globe. It has imprinted its likeness upon almost every useful instrument now employed; and I cannot now see why it will not forever be indispensable to the intelligent exercise of the art of gynæcology.

None of these exist as a separate school in this country at the present time, but all are judiciously blended in one system to the great benefit of the suffering women of this period.

Some other theories of female disease, not so generally accepted, were taught by men of eminence. Drs. Tyler Smith and Tilt looked upon diseases of the ovaries as the source of many other diseases and disorders of the genital system; and according to these learned gentlemen the sympathetic influence of the female genital system was reflected from these organs in a state of disease. There is great plausibility in this theory, inasmuch as the ovaries are now acknowledged as the presiding, regulating and actuating organs of that system.

In 1857, when I came here, Dr. John Evans had just resigned the position of Professor of Obstetrics and Diseases of Women and Children in Rush Medical College, and was the only professional gentleman in the city, so far as I know, who either had or deserved to have any reputation as a gynæcologist. He had taught the branch to which he had been elected, very acceptably, and would no doubt have made a wider and more enduring fame if he had not turned his attention to politics and building rail-

roads. The professional reputation he left behind him, however, is one of which he may justly be proud. At that time gynæcology was cultivated by all the intelligent members of the profession in this city to the limited extent necessitated by the want of facilities for studying it. As compared to its present condition, the subject did not deserve and had not attained to the dignity of a separate name. The appliances used in the treatment of diseases of women were very imperfect, and the gravity with which they were employed would have been amusing if they had not often been mischievous. The cylinder was the representative speculum, although the bivalve and quadrivalve were occasionally seen as curiosities. I have several times seen a lamp chimney do service as a cylindrical speculum, and heard the owners congratulate themselves upon the simplicity of these instruments as compared to the fancy and expensive articles of which they had heard. As the practitioners of this city generally accepted the teachings of Bennett, a caustic holder was a necessary part of their equipment, and goose-quills served their purpose admirably. I assure you in all earnestness that I have known men to practice gynæcology to their own satisfaction with those two instruments alone. It is not in a spirit of derision that I tell you these facts, connected with the gynæcology of those times, but for the purpose of giving you an idea of its rude condition.

Two years after the resignation of Dr. Evans, our accomplished fellow, Dr. DeLaskie Miller, was elected to fill the same chair in Rush Medical College, and I have often wondered at and admired his courage and perseverance in discharging the duties of three men in that institution for so many years. That those duties were conscientiously performed, no one will doubt; that they were acceptably rendered, the fact that he has lectured to more students on that subject than any other man in the Northwest, with possibly one exception, sufficiently attests. To him belongs the credit of establishing the first gynæcological clinique in this city. This clinique was successfully conducted by him at Rush Medical College on the North Side, as far back as 1862. All who knew him will join me in wishing a long continuance of his useful career.

In 1859 Chicago Medical College was organized, and an incumbent to the tripod chair of Obstetrics and Diseases of Women and Children elected. The duties of this laborious position were divided with Dr. E. O. F. Roler in the year 1868. Twelve years seem but a very short time, and there is so much of an advancement since then that we forget the fact that, if not the first, it was among the first instances in which this step was taken.

Dr. Roler has filled the chair of Obstetrics in a manner that has placed him in the foremost ranks of obstetricians in the Northwest, if not in America.

In 1872 an organization called the Chicago Obstetrical Hospital was effected. This organization occupied a part of the Chicago Medical College building, but was otherwise independent of it. The members of this institution were Dr. Daniel T. Nelson, who did the first work that led to its foundation, Drs. E. O. F. Roler, H. T. Merriman, H. T. Byford and myself. The clinical gynæcological teachings of the Chicago Medical College were conducted by the members of the Chicago Obstetrical Hospital up to last year. The property of that institution is now in the keeping of the Woman's Hospital of the State of Illinois. I am happy to recognize in the gentlemen connected with that institution, gynæcologists who are a credit to our city and society and whose future is full of promise.

In the year 1870 the Woman's Hospital Medical College was organized, and the separate chairs of Obstetrics, Gynæcology and Diseases of Children were established as a part of its original organization. Dr. Eugene Marguerat was elected to the chair of Obstetrics. For several years he discharged the duties connected with his position in a painstaking, faithful and very acceptable manner, and is now recognized as an able practitioner of obstetrics.

Our sturdy and indefatigable fellow, Dr. T. Davis Fitch, became Professor of Gynæcology, and still occupies the position in that institution. It is not in a spirit of flattery that I say in his presence, Dr. Fitch has already achieved a national reputation as a gynæcologist, and that the Woman's Medical College

owes much of its present highly prosperous condition to his devotion, industry and ability.

The chair of Diseases of Children was given to Dr. Chas. G. Smith. I need not speak to you of Dr. Smith's well known acquirements in this direction—they are too familiar to you to require it. Dr. Smith's large and increasing practice was too exacting to permit him to retain that chair. He was succeeded by Dr. Mary H. Thompson, who also very soon retired from the place, to more completely devote her whole time to the Hospital for Women and Children. Our fellow, Dr. Chas. W. Earle, was transferred to this chair, and has ardently, intelligently and devotedly discharged the duties of it to the present time. His usefulness as a member of the faculty is second to no other belonging to the college, and he has only to persevere in the way he now goes to occupy a high position in this great city and country.

I have yet to chronicle another event in the history of our colleges in which some of our fellows have played a conspicuous part. I refer to the organization of a Spring Faculty in the Rush Medical College. This occurred in the year 1872, and the choice of members of the faculty was determined by *concours*. In that *concours* the contest was participated in by some of the ablest men in this city and State. Our fellow, Dr. A. Reeves Jackson, triumphantly won the chair of Gynæcology, and Dr. E. Warren Sawyer that of Obstetrics. It is only the truth to say that the brilliant success of this enterprise was largely due to the able and acceptable teachings of these two talented gentlemen.

About 1862 the Hospital for Women and Children was established and Dr. Mary H. Thompson was appointed by the board of trustees "Head Surgeon." She still occupies that position, having held it continuously from that time. To this position she owes much of her uncommonly successful and useful career. Dr. Thompson has performed almost all the difficult and important operations in gynæcological surgery, and deservedly ranks among the most successful gynæcological practitioners. Dr. Sarah Hackett Stevenson is associated with Dr. Thompson in this hospital, and a bright future awaits her.

About the same period, for the first time, the Mercy Hospital

was open to gynæcological cases. Later, cases of obstetrics were received into the same institution. Since then the department of obstetrics and gynæcology has developed into a useful field for teaching, and has been fully utilized by the Chicago Medical College.

In August, 1871, a charter was issued to Dr. A. Reeves Jackson and associates, for the organization of the Woman's Hospital of the State of Illinois. It is well known that this enterprise originated with Dr. Jackson, and through his untiring exertion was pushed forward to success. The hospital is still in existence, and it is hoped will become one of the enduring institutions of Chicago—the means of great good to suffering women, and a source from which will emanate much useful gynæcological knowledge.

When Cook County Hospital was organized in the year 1855, there was not a distinct gynæcological department established, and patients laboring under diseases peculiar to women, and even obstetrical cases, were at first placed in charge of one or more physicians of the hospital. Soon, however—probably in 1865—the authorities of the hospital designated certain wards for obstetrical cases and for diseases peculiar to women, and gave Dr. H. W. Jones charge of the department thus created. To Dr. Jones is due the credit of being the first to give regular special *hospital* clinics in gynæcology in Chicago. Later in the history of this hospital, Dr. T. D. Fitch was associated with Dr. Jones in charge of this department.

Our fellows, Drs. H. Webster Jones and T. Davis Fitch, had charge of the department of the hospital for several years—Dr. Fitch until within about two years. Dr. Jones, on account of a large and growing gynæcological and obstetrical practice, resigned his position on the staff of the hospital. These positions are now occupied by gentlemen of great respectability, Drs. Steele and Guerin, and the department under their management is utilized to much advantage for teaching. Our fellow, Dr. Jones, may be regarded as a pioneer gynæcologist in Chicago, having been here twenty-two years, and growing with the city and profession, now enjoys a position of which we as fellows and associates are proud.

In the interval between the year 1857 and now, but especially since the fire, several important dispensaries have been organized, some for gynæcological patients alone and others in which this department of our profession has been well represented. I have already spoken of the one connected with the Mercy Hospital and Chicago Medical College. One for the exclusive treatment of diseases of women and children was and is now connected with the Hospital for Women and Children. Under the vicissitudes caused by poverty, the fire and the panic, this gynæcological dispensary has been kept up, and while dispensing good to the people, has been utilized to great advantage for the purpose of teaching. Connected with the Woman's Hospital of the State of Illinois, there has also been maintained a dispensary for the treatment of diseases of women. Three years ago the Women's Christian Association established a dispensary for the treatment of the diseases of women and children. It has been judiciously managed, and is the source of much good to the suffering poor. All the mixed dispensaries have gynæcological departments, as the German, North Star, and the Central Free Dispensary. This last named dispensary, known for some years as the Brainard Free Dispensary, deserves more particular mention than any of the others named. It is now located on the corner of Wood and West Harrison, in the Rush Medical College building. The gynæcological department of this dispensary has been conducted in an efficient manner by Drs. Adolphus and our fellow Etheridge. It is now in charge of Drs. Adolphus, Fitch and Nelson, is attended by a large number of patients, and is affording material for a very useful clinique. In connection with this dispensary and its gynæcological department, Dr. Adolphus deserves to be honorably mentioned. It is acknowledged by all who are acquainted with the work done there, that the great success of that department, and indeed of the whole dispensary, is due more to the devotion and ability of him than any other one individual.

Gynæcology in Chicago has lately been the recipient of two valuable accessories. I allude to the arrival among us of our accomplished fellows Dr. Dudley and Professor Jenks. They are both so well known to all of you that I need say but little of

them. They have both impressed themselves upon the literature of the profession in other cities than this, and have won an honorable position among us. We welcome them with fraternal greetings.

In this very cursory and imperfect sketch of gynæcology in Chicago as I remember it, no doubt I have omitted institutions and individuals that ought to have been mentioned. If any such omission may appear, I beg the indulgence of any that may seem to be slighted, and assure them that at no distant time some one else will do the task in a more complete and graceful manner. I venture to hope, however, that this outline contains the main landmarks as starting points for a connected and full summary of the whole subject.

Chicago twenty-five years ago was a city of less than fifty thousand inhabitants; its houses were nearly all of them made of wood mounted on stilts, had been moved or were in a moving condition; its streets were formed of that native compound called Illinois mud, and in some places it was a long distance to the bottom. The sidewalks resembled irregular stairways, as we could not walk upon them without ascending and descending steps. Now it is a city of half a million inhabitants. Its streets are formed by magnificent structures surpassed by no city in the world—splendid public buildings, such as we visit, when abroad, as curiosities. Its business enterprise and vast resources are wonders to all civilized nations. How will the growth of gynæcology compare with this grand record? Does gynæcology keep pace with the magnificent progress made by commerce in this great Western metropolis? I dare not approach the comparison, but I think all will admit that its growth, taken altogether, is such as to inspire us with pride and courage. Pride that outside of the three great cities of New York, Philadelphia and Boston, we lead the profession. Indeed, I do not know that we ought to place the two last named cities before ours in gynæcological prestige. We should take courage at what we have done, at our increased strength, but above all at our own harmony and organization. Can we not hope that with the formation of this Society an era has been reached from which our progress will be more rapid than ever before?

ARTICLE III.

ALVEOLAR ABSCESS. By EUGENE S. TALBOT, M.D., D.D.S., Clinical Lecturer on Dental and Oral Surgery at Central Free Dispensary, Rush Medical College. Reported by William A. Synon.

The patient before us, John Kelly, twenty-eight years of age, is suffering from a disease which you will be often called upon to treat in your practice, known as alveolar abscess. We shall devote the remainder of the hour to acquainting ourselves with its cause, symptoms and treatment. This lesion is often ill understood, the term gum-boil being supplemented from a want of knowledge in regard to the pathology of the disease. The primary manifestations of an alveolar abscess is at the apex of the root. As it proceeds to the surface it often terminates in what is commonly known as gum-boil. The word alveolar comes from alveolus, meaning a cavity, a socket: the term showing that the lesion is located in the socket of the tooth. When lumbar abscess, or pelvic abscess, is mentioned, we at once comprehend the location of the lesion. A swelling upon the face or neck, with all the symptoms appertaining to an alveolar abscess, does not always indicate the presence of one. The seat of the disease must be within the alveolar process. We know that the soft tissues of the body are made up of the ultimate elements, carbon, hydrogen, oxygen, nitrogen, sulphur phosphorus, etc., and that when the particles die *en masse*, nature allows the substance to escape in the form of gases. The pulp of a tooth undergoes this same change; death is caused by caries, a blow upon the tooth, constitutional disorders, or from thermal changes. The gases, chiefly H_2S., being unable to pass into the mouth, escape through the apex of the root into the soft tissues. Please bear this point in mind. An alveolar abscess is always pathognomonic of a dead pulp in some one of the teeth. The periosteum, a vascular membrane surrounding the root and lining the alveolar process, affords nourishment to the teeth. This membrane becomes inflamed from the irritation and thickens. Being enclosed between bony

walls, the tissues are unable to expand and the tooth is forced from its socket. The patient experiences considerable pain, which ceases upon the slightest pressure, returning again with renewed energy when the force is renewed. These things continuing, plastic lymph is thrown out at the apex of the root and a sac is formed. The surrounding parts becoming involved, the face begins to swell, and the patient suffers the worst form of odontalgia. The sac enlarges and for want of room the pressure causes absorption of the alveolus, and the pus finds its way to the surface. It may point directly here, or it may dissect its way between the bone and periosteum, or between muscles to some remote part, and there form a pouch or pocket. This depends to a great extent upon the tooth and the application used in treatment. The pain ceases as soon as the pus has reached the surface and pressure is removed.

The first symptom observed is a slight soreness about the tooth affected. This increases, followed by a throbbing pain at every beat of the heart. As the pain increases, the tooth elongates, preventing the closing of the jaws. The patient is feverish and tongue coated, bowels constipated, and in a few hours the intermediate tissues distend, the face presenting an appearance scarcely recognizable. His suffering, meanwhile, has become intense, the nervous system has lost its tone and he is completely exhausted. The time varies from two days to two weeks in which the pus forces its way through the alveolus into the soft tissues; the pain ceases then and the tooth returns to its socket. Pus often presses between muscles and lodges in some remote part; this is more noticeable when the seat of the lesion is in the wisdom teeth or incisors. If a wisdom tooth becomes the seat of the trouble, the surrounding parts swell, involving the tonsils and thus interfering with swallowing. The jaws are closed and food is taken with difficulty. Pus sometimes finds an outlet in the larynx, or it makes its way around the neck of the tooth. Frequently it diffuses between the deep and superficial fascia and lodges near the larynx, trachea and clavicle. If the disease is connected with the incisor, the pus often works between the bone and periosteum, forming a tumor in the roof of the mouth. A fistula may form at this locality, or from pressure

may cause absorption of the palate bone and discharge into the nares. If the inferior incisor becomes involved, the pus, in obeyance to the law of gravitation, makes its exit through the integument beneath the chin. If the cause is not removed, the abscess becomes chronic and a permanent opening with red granulations about its margins is the result.

If a patient presents himself with a swelling or fistula upon the face or neck, you at once suspect that the trouble proceeds from the teeth. My experience teaches that the teeth are the seat of the majority of these pathological conditions. Make a thorough examination of the jaws to ascertain if there be any roots or decayed teeth. The locality of the swelling will aid you in this direction. The patient may be able to locate the tooth, but the practitioner must not be influenced against his judgment, as the patient may be mistaken owing to the extended inflammation. This might result in extraction of the wrong tooth—a too common occurrence. Satisfy yourself before sacrificing a tooth, and your judgment will be appreciated. In making a superficial examination only, we may not always be successful in locating the particular tooth which causes the trouble. You should all be provided with an oral surgeon's mouth-mirror and a steel instrument similar to a dental excavator. The mouth-mirror is a very convenient instrument for reflecting the light not only in every part of the oral cavity, but in the larynx as well. The steel instrument is an important aid; with it tap the teeth upon their grinding surfaces, commencing with the posterior tooth and advancing forward. When the particular tooth is reached, the patient will respond to the pain occasioned by the blow. In tapping the molars, it is essential that the whole surface should be gone over, because the seat of the disease may be located at the apex of any one of the roots, and unless the blow is directed over the affected root, the patient will not respond. Sometimes this proceeding is of little value. This is the case when the abscess has become chronic and fistulæ are established and the soreness of the tooth has passed away. Place the patient in a position that with the head thrown back a strong light may pentrate the oral cavity. With a mouth-mirror reflect the light upon the teeth and observe the difference in color. When death

of the pulp occurs, the tooth generally presents a bluish appearance. There are two reasons for this: one, that the animal matter is drawn into the tubule of the dentine by capillary attraction; the other, that the H_2 S unites with the iron in the blood, forming sulphide of iron. This discoloration is not always noticeable, particularly in older people; as, when age advances, the tubuli become smaller, so these substances are prevented from entering. If these attempts should fail to accomplish the diagnosis, another excellent plan is to warm the instrument used in tapping the teeth in a spirit lamp, and apply it to the crowns of the teeth. When it touches the teeth in which the pulp is alive, the patient will immediately respond, when the ones in which a dead pulp is located will be void of sensation. Hot and cold water may also be applied with a syringe—the cold having no effect, the hot producing pain.

Abscesses connected with the wisdom teeth of the lower jaw manifest themselves by a similar but a more severe line of symptoms than when connected with other teeth. The swelling takes place in the parotid region, the muscles of mastication become rigid, jaws set, the patient unable to swallow. The face is swollen to an enormous size and the pain is intense. Abscesses caused by the eruption of these teeth and those caused by the death of their pulps must not be confounded. Those caused from the eruption of the wisdom teeth are not alveolar abscesses. They differ in their locations, being situated around the crown, instead of at the apex of the root. They are caused by pressure upon the surrounding parts, in nature's efforts to force the teeth into place, and require a different course of treatment. Swellings and discharges in the roof of the mouth and nares are often a result of abscesses at the apex of the incisors. They occur more frequently when connected with the laterals. The pus dissects its way between the bone and periosteum, forming a pocket in the roof of the mouth, where it discharges into the oral cavity, or causes, by pressure, absorption of the maxillary bones discharging its contents into the nares. In some cases, abscesses have discharged their contents as far back as the soft palate, leading the practitioner to suspect caries of the bone. The antrum, the base of which extends from the canine tooth back, including

the wisdom tooth, sometimes becomes involved, discharging its contents into the middle meatus of the nose, or, being encysted, produces a bulging of the antral walls. Fistulæ upon the face, the result of alveolar abscess, are often mistaken for necrosis, caries and cancer. Two cases have come to my notice in the past two years; the first was a young lady who had been treated by different physicians more than four years for cancer beneath the infra-orbital foramin. While there was no pain or constitutional disturbance, the patient had become quite anæmic, and the expression of countenance indicated intense mental anxiety. Finally, she drifted into the hands of a physician who suspected the cause and called to his assistance a skillful dentist. They diagnosed the lesion, the seat of which was located at the apex of the canine tooth. This was treated, the abscess cured and the patient recovered. The next case was a woman with a fistula at the lower border of the chin, caused by an abscess at the root of the inferior incisor. She submitted to a surgical operation, and to the surprise of the operator no dead bone was found, the removal of the tooth relieving the trouble. It is not always easy to make out a diagnosis when caries and necrosis of the jaws are characterized by a similar line of symptoms. A plan which I believe to be safe and sure is by exclusion, as I have already stated. In these cases, suspect the teeth to be the seat of the difficulty.

Pass your probe into the sinus, notice the direction it takes before meeting an obstruction; should it prove to be a hard, smooth circumscribed mass, it (together with the direction which the probe takes) will aid you in extending your search in the cavity of the mouth and limit the extent of field to be explored. With the aid of the instrument, mouth-mirror, and heat you will be able to locate the tooth. Abscesses are as likely to arise from filled teeth as from roots, their pulps dying from thermal changes taking place through the fillings. If you are confident that the teeth do not cause the trouble, suspect dead or carious bone. You are familiar with the peculiar, soft, spongy honey-comb nature of the tissue and the readiness with which the probe penetrates. We do not find in alveolar abscess that dense inflammatory deposit extended in size often with more than one sinus and pus offensive

which are found in necrosis. Having ascertained that neither the teeth or bone cause the trouble, we shall next suspect a cancerous condition. In treating alveolar abscess and its complications, the simplest, surest and quickest means of eradicating it would be to remove the offending organ, but in these enlightened times in the hands of a specialist very few of the organs are sacrificed. The loss of a tooth impairs the whole dentine. Therefore efforts should invariably be made to preserve them. Should it be deemed best to extract the tooth, the following treatment will prove simple and efficacious: an injection of tr. iodine or carbolic acid into the sinus; if pus cells have commenced to form, we apply hot figs or raisins to the gum directly over the rebellious root. Also an excellent and more convenient remedy is one made from the following prescription:

Tr. capsicum,
Alcohol,
Chloroform, } of each ℥j

applied on a bit of cotton to the gum as before, pointing the pus into the mouth. Hot applications must never be made on the face, as it would point the pus to the surface; hypodermic injections of morphia may be given to relieve the pain. In lancing an abscess, pass the bistoury into the mouth, keeping the back of the blade against the jaw as a guide to avoid the facial artery. Never lance an abscess upon the face; an ugly scar would be the result, and should be considered malpractice. In abscesses resulting from death of the pulp by fillings, we should remove the fillings to allow the gases to escape, after which the root can be treated and the tooth refilled. Should you be fortunate enough to see the patient when the first symptoms manifest themselves, endeavor to avoid more serious results by freely lancing the gums, carrying the knife through the process to reach the inflamed periosteum and apply trs. aconite and iodine to the parts. Should this fail, then force the knife, or drill through the alveolar process at the apex of the root, and in this way give vent to the inflamed product, administering saline cathartics. We find the eruption of the wisdom teeth particularly difficult to treat, requiring the use of the lancet often to remove the mucous membrane. Frequently the space between the second molar and the angle of the

jaw is insufficient to allow the wisdom tooth to come up into place. When possible, we consider it wisest to remove the wisdom tooth; but if the tooth has not advanced enough to extract it, we remove the second molar rather than undergo any extended operation. When the antrum is involved, it may be necessary to remove the tooth causing the trouble. As the roots often extend into this cavity, it is quite difficult to treat an abscess in this locality. After the root is removed, if the secretion should not flow out, pass a drill or trephine up into the socket through the opening made by the root. Having removed the cause, cleanse the cavity with warm water, this being all required.

ARTICLE IV.

INJURIOUS EFFECTS OF VULCANIZED RUBBER. By L. P. HASKELL.

Sixteen years ago Dr. W. B. Roberts, of New York, wrote as follows, in an article for the *People's Dental Journal*, published in this city:

"We discovered that, of the *red vulcanite*, commonly used by dentists, no less than *one-third consisted of the coloring matter, bisulphuret of mercury*, or the vermillion of commerce; and that the balance was composed of sulphur and rubber, in nearly equal parts. Medical testimony informed us that the bisulphuret of mercury produces the same effect upon the system as pure mercury; we also found that in the process of mixing these ingredients, none of their properties are lost; and by actual experiment, before and after vulcanizing, the weight of the substance is the same.

"It therefore became evident to us that the bisulphuret of mercury and sulphur—two substances confessedly injurious to health—were actual ingredients of the material when placed in the mouth; and common sense, as well as science, taught us that such effects as were perceptible in such mouths, could proceed from no other cause.

"These effects, as noted in our own experience, and declared

by the evidence of many others, were, first, *a great absorption of the alveolar and bony substance of the jaw;* next, irritation of the mucous membrane, and *a condition nearly approaching salivation;* then gastric irritation, and, finally, the general derangement of the health consequent upon such abnormal conditions.

"*All of these symptoms of disease were removed by simply removing their obvious cause*, RED VULCANITE; while a healthy condition continued after replacing it with gold, or continuous gums.

"One cause of these inflammatory conditions under red, or any color of vulcanite, is the fact that it is a non-conductor of heat, and this cause, as will be apparent to any physiologist, is sufficient to produce the worst results."

To this testimony of Dr. Roberts has been added sixteen years of experience all over the world—we may say universally—of the dental profession. Doubtless there are many dentists who are unaware of these facts in relation to vulcanite; especially among that class who commenced practice since its introduction, and have had little or no experience in the use of *metal* plates; by many such, these abnormal conditions of the mouth are supposed to be owing simply to the presence of plates, no matter what the material; or, perhaps, owing to some peculiar condition of the system. There are others who ought to know better, that insist there are no injurious effects arising from the use of such materials, and still persist in recommending it as good, if not better than any other material used.

It will be observed that there are two serious objections to the use of these materials, viz.: loss of bony substance from undue absorption, caused by the retention of heat under the plate; and the *poisonous* effects of the coloring material, which constitutes *one-third* of the whole plate.

The first of these is the least serious of the two, but affects all who wear it, only in different degrees. I never have yet seen a mouth where this material has been worn but there were evidences of undue absorption, and thousands of mouths are ruined by it, for absorption goes on until there is no "process" left, and no ridge, or only a flexible one of thickened membrane.

To a young, or middle-aged person, doomed to wear artificial

teeth the balance of their days, it is certainly desirable that as permanent a condition of the *ridge* should be maintained as possible.

There is undue absorption under metal plates, sometimes, but, owing, most always, to undue pressure, long continued, upon one portion of the jaw.

The effect produced by the coloring material is far more serious, although not so often realized, because it seriously affects the health of the patient. Dr. Roberts has made so clear a statement, that it is unnecessary for me to add anything but to say that it is corroborated by many members of the profession, during these years past, and also to give several cases, that have come under my own observation.

One year ago, a German, about sixty years of age, was sent to me by Dr. Justin Hayes, whom he had consulted for treatment, and who told him it would be useless for him to do anything until he rid his mouth of a full set of rubber plates, which he had worn for eight years, and during the whole time had suffered in a peculiar manner, as follows: although having a good appetite, yet, the sight of food of whatever nature, with the exception of *fluids*, produced a feeling of disgust, almost horror, so that he subsisted almost entirely upon soups. I advised the use of "Continuous Gum Work," but he said the price was beyond his reach. I told him that perhaps celluloid would remedy the difficulty, and tried it. In two weeks he returned and said the trouble was as bad as ever, after wearing the plates one week, but at Dr. Hayes' suggestion, had left all plates out of his mouth for one week, and he began to improve. I arranged to make him the "Continuous Gum," inserted the plates, and, seeing him ten days after, and not since, until last week (one year), when he told me he had been entirely free from all unpleasant symptoms of the eight years previous.

In this case, I said, I tried the celluloid. This material has the same non-conducting quality of rubber, and in this respect is just as objectionable, but although it has the same coloring matter, there is very much less of it, and I never before observed any such results from its use.

Last March, a lady from Topeka, Kansas, called. For twelve

years she had been wearing a rubber plate, and during the entire time had suffered with a serious stomach difficulty, and also a chronic diarrhœa. She had observed the inflamed condition of her mouth, and had queried whether the plate caused it and the stomach difficulty. I made her a set of "Continuous Gum," and she returned home. In about six weeks she accidentally broke off a tooth and sent it to me for repairs, and for a week wore the rubber plate again. During the summer, on her way East, she called and told me her her experience, as follows:

After wearing her new set the symptoms soon began to disappear, and by the time she broke it, considered herself well; but, on putting in the old rubber set, the old symptoms reappeared, and continued to increase until she received her new set again, upon wearing which, the old symptoms again disappeared, and she was well again.

On telling her physician of what she had been doing, he said he did not know she was wearing a rubber plate, and if he had he did not know there was anything injurious in it, but he had been treating her for symptoms of *mercurial poisoning*, but of course without avail.

I could relate other cases of a similar nature, and so could dentists all over the country; but these suffice to illustrate the necessity of a more careful exploration of the mouth to find the cause of symptoms that sometimes puzzle the medical practitioner.

CHICAGO, December, 1880.

ARTICLE V.

A WOUND OF THE CORNEA COMPLICATED BY SECONDARY GLAUCOMA. By F. C. Hotz, M.D., Chicago.

In the latter part of February, 1879, a piece of a gun-cap hit the left eye of L. H., aged fourteen years, living in a small town in Illinois. For three days the eye was very painful; after that time periods of pain alternated with free intervals, but the eye always was more or less red. On the 2d of April the boy came to Chicago. I found a great deal of photophobia, profuse secre-

tion of tears, considerable redness around the cornea, and an irregular, ragged scar in the cornea extending obliquely from its center into the inferior temporal section. With the lower part of this scar the iris was adherent so that its tissue was forcibly dragged up toward the cornea in an abrupt fold. The adhesion was very small and did not involve the pupillary edge, the pupil, therefore, was round and mobile, and dilated readily upon the use of atropine, the portion fastened by the anterior synechia, of course, excepted. There was no trace of iritis and no disturbance of the lens; the fundus could not be sufficiently examined on account of the excessive photophobia and lachrymation. V was reduced to the counting of fingers; and T seemed increased. (T+2). No foreign body was found in the anterior chamber; and as the piece of gun-cap pierced the cornea near the center, it could impossibly have gone beyond the anterior chamber without wounding the lens. The persistent irritation of the eye, therefore, could not be attributed to the presence of a foreign body; and as so far the eye had not received any treatment, I hoped that rest, proper care and atropine, would soon subdue the trouble.

At first, it seemed as though my expectation would be realized; the symptoms gradually subsided, and, on April 24, the eye appeared so well that I discontinued the use of atropine. No sooner was this done than the eye became again red and painful. By the re-application of atropine this relapse was subdued in two days. But now T was undoubtedly positive; pilocarpine was substituted for atropine, but was borne by the eye so ill that I returned to atropine. From this time on, the eye was very changeable; sometimes looking quite well, sometimes very red and inflamed. T continued positive; the parenchyma of the cornea began to be hazy, and the anterior portion of the sclerotic seemed to expand under the abnormally high pressure.

Excessive tension is always an evidence of an abnormal increase of the contents of the eyeball. Whether the secretion of the intra-ocular fluids is abnormally stimulated, or the excretion (filtration) of these fluids abnormally slow, in either case the disturbance of the equilibrium between production (secretion) and consumption (excretion) will result in the accumulation in the

globe of a surplus of fluid; or, in other words, the eyeball becomes overfull, tense and hard. This condition of the eye is the characteristic symptom of glaucoma, and when it occurs in the course of another ocular disease, we speak of *secondary* or *consecutive* glaucoma. In the present case the glaucomatous condition was undoubtedly due to the abnormal fixation of the iris to the cornea; and consequently the only rational remedy that would afford permanent relief was an operation for the release of the iris.

May 16, I informed the father of the patient of this opinion. He did not come to the city until May 29, but at once consented to my proposition; and on the afternoon of the same day the operation was performed. About one mm. from the external margin of the cornea a narrow-bladed iridectomy knife was thrust through the transparent cornea and pushed across the iris in such direction that its point passed over the pupillary edge of the iris just above the synechia. By a slight rotation of the blade in the plane of the iris the point of the knife was made to disappear behind the iridic fold fastened to the corneal cicatrix. By further turning the blade in the same direction this fold was caught up by the cutting edge of the knife and cut off from the cornea, when the knife was withdrawn slowly from the anterior chamber. My intention was to end the operation with the release of the synechia. I was, therefore, very careful in withdrawing the knife lest the aqueous humor should escape suddenly and cause a prolapse of iris. But the intra-ocular pressure was so great that in spite of the most cautious manipulation the aqueous humor followed after the knife with such force that it carried the pupillary edge of the iris with it. Under the circumstances I considered a reposition of the prolapsed iris impracticable; I did not even make an attempt at reduction, but at once excised so much of the iris as was necessary to guard against further prolapse or anterior synechia. The day after the operation, I found the wound closed, the anterior chamber filled with aqueous humor, but T—. And T remained negative until June 4; the eye, however, was free from pain and steadily improved. I believe, therefore, that the abnormal reduction of T was due to an easy filtration of aqueous humor through the fresh cicatrix in the cornea. June

6, T was normal; and June 13, the boy could return home. The corneal parenchyma was clear; pupil horizontally oblong; fundus visible, but its vessels greatly distorted and unsteady, owing to the irregular astigmatismus of the cornea. The globe was slightly enlarged and highly myopic (as shown by ophthalmoscope); V = $\frac{10}{200}$, not improved by glasses. At an examination which I had the good opportunity to make on October 1, I found precisely the same state of the eye. And it was not very probable that the sight would become materially better because the opaque scar extended into the central part of the cornea, causing that well marked irregularity of its refracting surface known as irregular astigmatismus.

ARTICLE VI.

CHLORAL HYDRATE. (Article II.) By H. H. KANE, M.D., New York.

Mode of Administration.—The first duty of a conscientious physician who finds it necessary to use a drug of the strength of chloral, is to assure himself that the drug he has, or the article he orders from the apothecary, is pure. As has already been said, some authorities believe that the evil effects occasionally following the use of chloral are due to impurities in the drug, and not to peculiarities incident to the individual. This is especially insisted on by Liebreich and Bouchut,* and the latter gives the following simple test as sufficiently reliable for determining roughly the purity or impurity of the drug: "By taking it (chloral) in a crystallized, needle-shaped or snow-like mass, it will, in all probability, be found acceptable, but if you wish to insure its purity, you must test it with a concentrated solution of potash. If the chloral hydrate is pure, it will color the potash solution possibly a very light yellow, and will emit an unmistakable odor of chloroform. If absolutely pure, the solution should remain uncolored. If a brown color shows itself, and there is given forth the odor of chloroform, mixed with chloro-acetic

* Bouchut, C'te Rendu, Acad. des Scien. 1869, p. 966.

vapors, it is impure. I will say the same if it emits irritating gases of an acrid and disagreeable smell."

The fact that chloral hydrate is to be seen at different times and in different stores in several different conditions, has created not a little confusion in the professional mind. As manufactured by Schering, it comes to us perfectly pure, in white, opaque, broken plates of from about $\frac{1}{8}$ to $\frac{1}{4}$ in. in thickness. If this stands for a short time in a cool place, and is imperfectly corked, it will break down into a snowy mass. If freer access is given to the air, and especially if exposed to light and heat, the cake chloral becomes moist, of a yellow color, breaks down and very fine needle-shaped crystals form on the side of the bottle furthest from the heat. I have repeatedly tried to produce these shapes, and have always succeeded. Chloral in any of these forms may be perfectly pure, for I have tested it in each form and found it so. The needle-shaped crystal is that form most likely to be acrid and irritating, and if the process of its formation has been rapid, it will often give a distinct acid reaction and emit an acrid odor. There is, of course, a difference in the activity and the irritating qualities of these several crystalline forms, but by observing the precautions about to be given, all irritation may be avoided, and the difference in activity is too slight to need righting.

Chloral hydrate may be given by the mouth, rectum or hypodermically, or by the intra-venous method. I give them in the order of desirability. By the rectum we get about the same effect as by the mouth, both as regards rapidity of action and intensity and duration of effect. By the subcutaneous plan there is always danger of the production of deep-seated and superficial inflammation and the formation of abscess. The intravenous method is unjustifiable, save in the very rarest instances, and is fraught with great danger. In the majority of cases, then, the drug should be given either by the mouth or rectum.

By the Mouth.—Chloral hydrate should always be given in solution, as the drug in crystal is extremely irritating. Dr. Squibb prefers giving it in plain water, he believing that the syrup that is usually given to disguise the taste of the drug favors its breaking up. This plan is favored by not a few of my

correspondents. A preparation known as Liebrich's syrup of chloral is advertised and extensively used in England. In giving chloral I have always found it most convenient to order a simple aqueous solution, say:

℞ Chloral hydrat..... ʒiv
Aq..... ʒiij

of which one drachm contains ten grains, and then ordering separately a bottle of syr. tolut or prunus virginian, and let the patient add a drachm or two of the syrup to each dose of the chloral solution at the time of taking.

Many physicians use the bromide of potassium with chloral in every instance, they believing that the former intensifies and prolongs the effect of the latter.

Bartholow* found good effects in nervous disease from a combination of chloral, morphine and atropine; better than when either drug was used singly.

Bowers† produced profound sleep, lasting from twelve to eighteen hours with the following:

℞ Chloral hydrat. ..... gr. 30
Potass. bromid. ..... gr. 15 } a dose.
Tr. opii ..... gtt. 20

Nearly the same is advocated by Dr. J. M. Lewis, of Kosciusko, Miss., who advocates the following, which he uses to produce sleep and quiet pain in every case where there are no contra-indications:

℞ Morphiæ sulph. ..... gr. ¼
Chloral hydrat..... gr. 15

Repeat as often as necessary to relieve pain or produce sleep. occasionally combines it with potass. bromid.

With reference to the combined use of chloral hydrate and morphia, Bartholow‡ says:

"These agents act much more favorably when administered simultaneously. Chloral causes sleep, morphia relieves pain,

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* *Cincinnati Clinic*, Oct. 28, 1874.

† *North Western Med. & Surg. Jour.*, Dec., 1871.

‡ Report of a paper read before the N. Y. Society of Neurology and Electrology, *N. Y. Med. Journal*, vol. 21, p. 59.

atropia prevents or lessens the depression in the respiration and cardiac movements caused by the other two, while it contributes to their cerebral effects."

"These physiological studies are confirmed by the therapeutical results. The combination of chloral, morphia and atropia is adapted to those cases of insomnia caused by pain, or in which chloral or morphia alone merely increases the cerebral excitement—as in hypochondria, puerperal mania, etc. This combination is also indicated in cases of fatty and irritable heart. When pain is to be relieved, chloral is not so serviceable as the combination with morphia and atropia. The local administration—the insertion of the medicament at the site of pain—is more effective than the merely systemic impression. This is especially the case in tic-douloureux, sciatica and coccydinia, which are much more effectually treated by injections made in the neighborhood of nerves, the seat of pain. The combination of a local irritant and benumbing agent with a systemic anodyne is more curative than either used singly."

Dr. E. Chenery,* of Boston, looks upon the combination in the same way.

Dr. F. D. Lente† finds that combining a little codeia or McMunn's elixir with chloral enhances the effect of the latter.

Dr. A. P. Hayne, Inebriates' Home, San Francisco, has used the combination of chloral hydrate and bromide of potassium in a large number of instances (2,000 to 3,000), and finds that the bromide not only enhances the effect of the chloral, but acts as a guard or check upon its occasional ill effects.

Oré‡ found that two drops of a 10 per cent. solution carbonate of soda, when added to 15 gr. of chloral in one drachm of water, would make the solution alkaline. This solution was intended and used for intra-venous injection but it has since been used,§ although not extensively, in giving the drug by the stomach. It prevents irritating local effect, and seems to add to the rapidity and intensity of its action.

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* *Boston Med. & Surg. Journal*, 1874, p. 634.
† Personal communication.
‡ *Bulletin Gén. de Thérap.*, April, 1875.
§ Les Testa, *Gaz. Méd. de Bordeaux*, 1875, 1876.

Dr. Saml. E. Wills,* of Earlsville, Maryland, finds that, in some cases, chloral does not act well, and believing that this is due to excessive acidity of stomach, gives 20 or 30 grains of bicarbonate of soda or potash, and sleep always follows.

Chloral dissolved in cod liver oil was, I believe, first used by Dr. J. Hughes Bennett,† who tried it in a case of phthisis. He found that the combination produced vomiting, while either oil or chloral alone did not do so.

By others‡ the chloral is said to render the oil more palatable, check cough, improve appetite and check night-sweats. The proportion is as follows :

℞ Chloral hydrat..... gr. 10 vel 20
Ol. Morrhuæ..... gr. 190

Dr. John Barclay§ noticed the peculiar fact that when chloral hydrate and iodide of potassium were given together, in small doses, no less than ten out of fifteen patients were affected with iodism by the first or second dose of the mixture.

"Assistant Surgeon,"¶ having seen Dr. Barclay's article, put twenty patients upon this combination, but in no instance was there any iodism produced, although the medicine was given three times a day for three days.

I have tried this experiment, varying the doses of the drugs, in a number of instances, but without any appreciable increase in the effect of the iodide.

Chloral hydrate and sweet spirits of nitre are said to be incompatible,‖ the mixture containing them becoming acrid and pungent in a few hours' time. This I have also tried, but have failed to confirm.

As chloral hydrate is quite irritating to the buccal, pharyngeal and gastric mucous membrane, whether in a simple aqueous or a syrupy solution, it is best to eat a little something, say a cracker, before taking the dose.** This has been spoken of in Dr.

* Personal communication.

† *Edinburgh Med. Journal*, June, 1870.

‡ (*Med. Times & Gaz.*,) *N. Y. Med. Record* 1871, p. 419. Frossini, Dujardin, Lissonde, *Bulletin Gén. de Thérap.*, vol. 87, p. 189.

§ *Lancet*, Sept. 21, 1872.

¶ *Lancet*, Oct. 19, 1872.

‖ *Druggists' Circular*, Nov., 1877.

** Testa, op. cit.

Squibb's letter. The reason may be seen and appreciated by anyone.

A very pleasant formula is given by F. F. Harvey,* Assistant Surgeon, U. S. A. He gives it in mint water or syr. tolut, with the addition of tinct. cardamom. This "covers the taste well, and leaves the stomach in a good condition to digest food—an important matter in delirium tremens."

Limousin,† availing himself of the fact that chloral becomes liquid at a comparatively low temperature (114.8° F.), reduced it to liquid form, and ran it into capsules, where it speedily hardened. These capsules fully protected the drug from the air, for a reasonable length of time, and the effect on the system was found to be excellent. They were satisfactorily used by Liégeois and Mauriac with good results. These capsules, when the drug had solidified, were hermetically sealed after the method of Viel, of Tours. Soft capsules did not prove satisfactory. The amount of chloral in each capsule varied from 0.30 to 0.40 grams. In concluding his remarks, Limousin states that the alcoholate of chloral is much easier to manipulate and preserve than the hydrate.

Dr. H. Fly Smith‡ found that chloral, when given in camphor water, acted much more quickly and powerfully than when given in syrup.

Dr. Julius T. Hoffmann, of Chicago, Ill., and a recent writer in the *N. Y. Medical Record* (Nov. 20, 1880) say that the taste of chloral may be effectually disguised by giving it in syrup of gooseberry and adding one drop of chloroform to every grain of chloral.

By the Rectum.—Chloral hydrate is peculiar in that it acts with about the same rapidity and intensity when given by the rectum as when given by the mouth. Indeed, some authorities§ claim that it acts more rapidly when given by this channel. It has been found of great advantage to give it in this way in two classes of cases:

1. Those where, owing to some spasmodic or convulsive affec-

* *N. Y. Med. Record*, 1870, p. 328.
† *Bull. Gén. de Thérap.*, Mar. 30, 1870.
‡ *Lancet*, June, 1871.
§ Bouchut, op. cit.

tion (tetanus, puerperal convulsions), it is impossible or very troublesome to give it by the mouth, and

2. In cases where, from inflammatory or other affections of the stomach or throat, it is not deemed advisable to give the drug by the mouth, owing to the possibility of causing a local irritant action.

It may be exhibited either in the form of suppository or enema. The former is preferable in those cases where there is irritability of the rectum and a quantity of fluid cannot be tolerated.

It is a matter oftentimes overlooked by physicians, that chloral hydrate is a ready solvent for fats, so much so that solid fat becomes liquefied by contact. For this reason, cocoa butter, the usual vehicle for suppositories, is inadmissible for making them with chloral, as in such case a soft, oily mass, altogether too fluid for anything but an ointment, results. If it is desired to use a solid extract with the chloral, the difficulty is still further increased, for the little water necessary to moisten the extract before "working" it, greatly increases the fluidity of the oleaginous mixture. A writer in the *Druggists' Circular and Gazette*,* after a number of experiments as to the best excipient, found that equal parts of spermaceti and oleum theobromæ have the advantage over any other. This proportion is suitable for a suppository containing ten or twelve grains of chloral. If more is used, the amount of spermaceti must be increased.

M. Catillon,† in a communication to the Société de Thérapeutique, recommends the following formula:

Chloral hydrate.....		1 part.
White wax, Cocoa butter,	aa.....	2 parts.

for plasters, suppositories or bougies.

Whidborne‡ finds a suppository mass composed of one to two drachms of chloral hydrate, made up with hard soap and honey, very useful.

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* Feb., 1877.

† *Gazette Hebdom.*, Jan., 1879.

‡ Quoted by A. E. McRae, *Edinburgh Med. Journal*, Nov., 1871.

Paul,* who uses suppositories of chloral hydrate only for their local action in cancer, etc., employed the following as a basis:

Cocoa butter	30 grains.
Spermaceti	45 "
Powdered charcoal	45 "

Enemata.—It is by enema that chloral is most often given by the rectum. Given in pure water, it, after a few injections, and sometimes in the first instance, produces considerable irritation.

Dr. G. de G. Griffith† finds it of great advantage to beat up the drug with one or two raw eggs, and to this add a little warm milk. He has used chloral and bromide of potassium in this way in a number of instances, without producing any irritation, and with the best effect on the disease. Dujardin-Beaumetz‡ has used the same base for exhibiting plain chloral with the best result. Leo Testa§ also speaks highly of it.

The use of chloral hydrate by rectal injection is spoken of as the best by Ernest Labbec.¶

Those diseases in which chloral hydrate has been used with special advantage, will be fully discussed in a subsequent article.

Subcutaneously.—Chloral hydrate was at one time extensively used hypodermically, but has long since fallen into disuse, owing to the commonly occurring accompaniment of pain, inflammation and abscess. Bartholow‖ claims that when used subcutaneously, this drug has the power of relieving pain, which it has not when given by the stomach. Labbec,** on the contrary, asserts that its action is no way different by this mode of exhibition than by any other. Having tried it in several cases, I have found that it has distinct pain-relieving power, especially in the simple neuralgiæ. Given thus with morphia, the action of both drugs is increased.

Severe inflammation and abscess are not uncommon. Picòt††

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* *Bulletin Gén. de Thérap.*, Avril, 1875.
† *British Med. Journal*, May 8, 1875.
‡ *Bulletin Gén. de Thérap.*, June 15, 1876.
§ *Gaz. Méd. de Bordeaux*, 1875, vol. 90, p. 332.
¶ Du Chloral, *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330.
‖ Hypodermic Medication, Phila., 1879, p. 190.
** *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330.
†† *Gaz. Hebdom. Méd. et Chirurg.*, 1869, p. 776.

found that subcutaneous injection of chloral hydrate into the ears of rabbits was always followed by intense inflammation, these organs in most instances becoming gangrenous and falling off. Laborde* found severe inflammation, abscess and gangrene to follow hypodermic injections under the skin of guinea pigs and other animals. Colin† does not seem to have had the same bad results. He cautions, however, against the use of a strong solution, and advises not to inject in the neck or in the neighborhood of joints.

Namias,‡ of Venice, has used the drug in this manner frequently and with good results in supra-orbital neuralgia. He never observed eschars or abscess where a sufficiently diluted solution was employed. Liebreich,§ while not advocating this practice, says that he has never had abscess follow when using a platino-iridium syringe. Fairland,¶ staff surgeon, Lucknow, has used it hypodermically in cholera without the production of abscess. In a case of uræmic convulsions, and one of delirium tremens, in the Cook County hospital, Chicago,‖ chloral hydrate was given subcutaneously and no abscess resulted.

Tizzoni and Fogliata** found, after an elaborate series of experiments, that gangrenous abscesses often resulted from the hypodermic or intra-venous injection of chloral hydrate. Drs. A. Ady,†† of West Liberty, Iowa; A. M. Campbell,†† of Mt. Vernon, N.Y.; Wm. Judkins,†† of Cincinnati; Walter Edmunds,†† of London, Eng.; G. W. Davis,†† of Chico, California, and F. L. Forsyth,†† of Providence, R. I., have seen inflammation, abscess or sloughing follow. Bouchut‡‡ does not believe that this method of giving chloral hydrate is free from danger: that of inflammation, gangrene and abscess. Sir James Simpson§§ saw slough

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* *Archiv. Gén. de Méd.*, 1869, T. 2, p. 758.
† *Gaz. des Hopitaux*, 1874, p. 611.
‡ *Archiv. Gén. de Méd.*, 1870, T. 1, p. 240.
§ *Berlin Klin. Wochenschrift*, No. 43, 1870.
¶ *British Med. Jour.*, Jan. 27, 1877.
‖ *N. Y. Med. Record*, Aug. 14, 1880.
** *Lancet*, Nov. 11, 1876.
†† Personal communication.
‡‡ Cte. Rendu, *Ac. des Sciences*, 1869, p. 966.
§§ *Edinburgh Med. & Surg. Journal*, May, 1870.

follow this method in one case, as did Giraldes,* Ogle† and Nairne‡ in several cases.

The pain, inflammation, sloughing and abscess so often seen to follow the hypodermic use of this drug, are undoubtedly due to its acidity. This may be effectually neutralized by the addition to the solution, *at the time of giving*, of carbonate of soda as recommended by Oré. One grain of carbonate of soda will effectually neutralize the acidity of 20 gr. of chloral hydrate, and while doing away with pain and subsequent inflammation, will in no way impair the activity of the drug.

In making these injections, care should be taken that a vein is not punctured (the cellular tissue of the shoulder over the deltoid being the best site for operating, the needle being introduced at a right angle to the long axis of the limb), that the chloral is fully neutralized and the solution well diluted. The plan of giving chloral by the rectum, when it cannot be given by the mouth, is so simple and efficacious that the hypodermic plan is seldom called for—chiefly in neuralgic affections. In these cases, morphia and atropia may, with advantage, be combined with the chloral, or what is better, give an injection of choral first and then one of morphia and atropia soon after, for the alkaline solution of chloral will precipitate the morphia if all are given together.

Intra-venous Injection.—The intra-venous injection of chloral hydrate is, in my opinion, never justifiable. Oré, the great champion of this method, still believes in it and occasionally practices it. When first brought before the profession and so ably advocated by this gentleman, it found many supporters in France and Germany, and almost none in England and America. It was used for two purposes: 1st, and chiefly, to produce profound anæsthesia; 2d, to relieve severe spasm, as in tetanus and diseases of like nature. As we know, its use by the rectum or hypodermically is quite sufficient in the latter class, and in the former we have much safer and quite as efficacious agents as chloral.

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* *Gaz. des Hôpitaux*, 1869, p. 523.
† *Practitioner*, 1870, p. 267.
‡ *Practitioner*, July, 1875.

Successful, at first, in a few cases, deaths* soon began to result, and in 1874 the French Academy condemned the practice as dangerous and unjustifiable.

Vulpian† found, in experimenting on dogs, that death resulted in several cases, and occasionally hæmaturia. Colin‡ found, in experimenting on animals, that a strong solution, or the rapid injection of a weaker solution, caused death by syncope. Oré,§ the great exponent of this method, says that the hæmaturia observed by Vulpian in animals has never occurred in man. In this article he refers to fourteen successful cases, and makes the following statements based thereon: "An essential condition of success consists in making the puncture without laying bare the vein, and especially without dissecting or isolating the vessel. If the subject is too fat to permit of this, and the veins are scarcely apparent, a cut should be made over the vessel, sufficient to expose its outside, and the puncture he made directly, without separating the vessel from neighboring tissues."

The strength of the solution is 1 to 4, sometimes 1 to 6. "Whatever the solution, our observations teach us that no less than 5 grams are needed to produce anæsthesia, and from 5 to 8 grams are necessary to obtain sufficient anæsthesia to permit of the performance of a capital operation. Insensibility of the cornea is taken as a test for general anæsthesia. One gram a minute may be injected until the necessary amount is introduced. The canula should not be left in the vein too long, or a clot will form."

He sums up by saying: "1. There is never any respiratory trouble. 2. Insensibility, varying according to the amount of the dose, is produced. 3. There is no preceding period of excitement. 4. There is never any vomiting. 5. The anæsthesia is always followed by deep sleep, which is calm and regular, and which lasts from ten to twenty-four hours, thus doing away completely with all the evil after-effects of the operation. 6. There is never phlebitis, clots or hæmaturia, if the injection is properly made."

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* Lande, *Med Times & Gazette*, Jan. 16, 1876.
† *Bulletin Gén. de Thérap.*, vol. 86, 1874, p. 544.
‡ *Bulletin Gén. de Thérap.*, vol. 87, 1874, p. 80.
§ *Bulletin Gén. de Thérap.*, vol. 87, 1874, p. 468.

A case of hydrophobia is reported* in which 13 grams were injected one day and 20 grams the next. Death occurred on the second day from orthopnœa. The veins were found in good condition, there being neither thrombi or emboli found.

The intra-venous use of chloral for the purpose of producing sufficient anæsthesia to permit the performance of capital and other operations, has been fully tried† and by the majority of operators condemned.

Sigs. Tizzoni and Fogliata‡ conclude, from forty experiments, "That chloral injected into the veins does not act as a true anæsthetic, but simply as a strong hypnotic. That it is very dangerous, and that the evil effects, when they show themselves, cannot be combated; also, that phlebitis is easily induced."

Dr. Noir,§ of Brioude, France, amputated a leg, the patient being fully anæsthetized by means of the intra-venous injection of 75 grains of chloral. Alarming collapse occurred upon waking, and was followed by violent delirium. He does not favor its use.

Experiments on animals, to some of which I have already referred, prove to us that the danger from syncope is quite as great as that from clot. This is further clearly demonstrated by the experiments of V. Chiorne.¶ He found that phlebitis was not an uncommon occurrence, and has seen animals die from arrest of the heart's action in diastole.

Francis, Frank and Troquart, in experimenting in Marcy's laboratory, found that the intra-venous injection of large doses of a concentrated solution of chloral caused arrest of heart and

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* Rép. de Pharm., 1874.

† Landrin, *Archives Gén.*, 1869, T. 2, p. 755. Guerin, *Bull. Gén. de Thérap.*, vol. 86, p. 330. Bouchut, *Archiv. Gén. de Méd.*, 1869, T. 2, p. 755; *Gaz. des Hôpitaux*, 1878. p. 745. Labbée, E., *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330. Deneffe and Van Wetter (*Gaz. des Hôpitaux*, 1874, p. 569), *Med. Times & Gaz.*, Oct. 1874. Bouillaud (L'Institut), *Med. Times & Gaz.*, Aug. 14, 1875. Redier (*Jour. des Sci. Méd. de Lille*), *Druggists' Circular*, Aug., 1879. Tizzoni and Togliata (*Revista Clin. di Bolog.*, Fas. 12, 1875), *Lancet*, Nov. 11. 1876. Giraldes, *Gaz. des Hôpitaux*, 1869, p. 523. Noir, *Gazette des Hôpitaux*, 1869, p. 590. Liebreich, Das Chloral Hydrat, Ein neues Hypnoticum und Anæstheticum und dessen Anwendung in der Medicin; Berlin, 1871. Valentinotti and Sylvestri, *Gaz. Obstétricale*, Feb., 1874. p. 29. Nairne, *Glasgow Med. Jour.*, July, 1875. Mauriac, *Gaz. des Hôp.*, 1870, p. 405. Oré, *Gaz. des Hôpitaux*, 1872, p. 524; 1874, p. 611. Linhart, Lande, *Bull. Gén. de Thérap.*, vol. 91, pp. 35, 82.

‡ (*Revista Clin. di Bolog.*, Fas. 12, 1875), *Practitioner*, 1877, p. 214.

§ *Gaz. des Hôpitaux*, Dec. 29, 1869.

¶ (*Lo Sperimentale*, Fasc. 1, 1876,) *Allg. Med. Cent. Zeit.*, April 29, 1876.

respiration, and show clearly that the arrest of the heart's action is due to contact of chloral with the endocardium, and not by action on cerebral centers.

Intra-venous injection of chloral hydrate, then, is dangerous from the fact that phlebitis may follow, a clot may form, and the fatal syncope may result. As has already been said, I consider the practice unsafe and unjustifiable.

Inhalation.—Richardson* administered chloral hydrate by inhalation. He dissolved the chloral in ether and then caused it to be inhaled. Mandl† has used cigarettes containing chloral for inhalation.

Those preparations of chloral used locally will be discussed under the head of those diseases calling for the local application of this drug.

ARTICLE VII.

CELLULITIS OF NECK ACCOMPANIED BY ŒDEMA GLOTTIDIS;" DIFFICULT LARYNGOTOMY.

By G. FRANK LYDSTON, M.D., House Surgeon, Charity Hospital, New York.

I submit the following history of a very curious case, which may prove interesting. The patient, J. M. Labover, æt. 27 years, entered hospital November 30, with the following history. He stated that he had been on a spree for a week past, and that he had eaten no food for four days, but that he was perfectly well until three days previous to admission. At that time he noticed a small sore beneath the ramus of the jaw on the left side of neck, which was followed by considerable swelling, and shortly after its appearance patient was seized with a severe chill, followed by fever, headache, thirst and vomiting—the headache being especially marked. There was slight pain at situation of ulceration above mentioned. The headache had grown very severe, especially during last two days, there being exacerbations of pain, followed by nausea and vomiting. This pain is now referred principally to crown of head and occiput. Has suffered from insomnia since beginning of trouble.

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* Quoted by Ernest Labbee, *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330.

On admission, a diffuse, boggy swelling appeared on left side of neck and face, extending to clavicle and somewhat below it, and there being some swelling of right side of the neck. There was no redness, excepting in posterior part of neck on the left side; no heat, and very slight tenderness on pressure. On the left side of neck, just below the ramus of the jaw, was a red, elevated, and somewhat ulcerated oval patch, about one inch in length by half an inch in breadth, this being surrounded by well-marked induration. The lymphatic glands of neck, and parotid and submaxillary glands, were enlarged and tender. No history of injury could be obtained.

An examination of throat revealed considerable swelling and redness of fauces, especially on the left side, in which situation a tumor could be discerned. Reflex sensibility was so exaggerated that the slightest attempt at examination of the throat caused retching. When the first examination was made, patient was able to stand, and being a remarkable specimen of muscular development, measurements of chest and arms were made, the examination not seeming to exhaust him much. A short time after the examination, however, the patient requested permission to go to bed, saying that he was too ill to stand; and a bed was given him at 12 m., Dec. 2d. He lay but a short time, however, when he suddenly sprang out of bed and began staggering about the ward, saying that his head pained him so that he could not lie still.

Respiration appeared to be quite embarrassed, although patient made little complaint. I ordered him to bed, and administered liq. morphiæ, U. S., ℥ij. The patient was not at all violent, but refused to assume the dorsal decubitus, apparently on account of dyspnœa, although he referred it to the intense cephalalgia from which he was suffering. A saline cathartic was given, followed by stimulants and quiniæ sulph. gr. v every three hours. The lotio plumbi et opii was applied to the neck. The temperature at 1 p. m. was 103½ Fahr., pulse 120, full, but soft and compressible. Shortly after taking the morphia, patient drank freely of beef tea, and in a short time fell into a heavy slumber, from which he could with difficulty be aroused for the administration of remedies. He remained in this condition until 5:30 p. m.,

when he aroused somewhat, but would swallow nothing, and resisted the administration of remedies by the rectum. He speedily relapsed into a semi-comatose condition, from which he did not again arouse. The lotio plumbi et opii was now replaced by hot poultices, renewed every fifteen minutes, with stimulants per rectum, and hypodermics of tr. digitalis and ammon. carb. I did not see the patient again until 10 p. m., but during this time, his dyspnœa rapidly increased, and patient had three short clonic convulsions. He was seen by the house staff at 9 p. m., and hypodermics of whisky and digitalis given. The pulse at that time was very feeble and intermittent, and the respiration was markedly obstructed. At 10 p. m. I again saw the patient. Respiration was now greatly embarrassed, the obstruction being chiefly confined to inspiration, the pulse still feebler than when last seen, and very intermittent.

The jaws were tightly set, and it was with great difficulty that I succeeded in introducing my finger into the pharynx, and experienced considerable trouble in reaching the glottis, the larynx being displaced downwards and to the right.

The glottis was found to be very œdematous and the fauces very much swollen. The swelling of the neck was now greatly increased, having extended to a considerable degree across the median line and to the posterior portion of neck, giving the head and face a very peculiar appearance. The eyes were now rolled upwards, and fixed, and pupils dilated, face and lips cyanosed, respiration still more obstructed.

Respiration became completely suspended several times for a short period. At 11 p. m., the pulse and respiration being very feeble, laryngotomy was performed. The swelling and infiltration of tissue was so great that absolutely nothing in the way of landmarks was perceptible on palpation, and as the patient was very stout, and muscular, and the neck very short, the difficulty in reaching the larynx was necessarily very great. An incision was made in the median line, and a careful but rapid dissection made in that situation.

The hæmorrhage was very profuse, as a result of venous engorgement. The larynx was displaced about half an inch to the right, by pressure of inflammatory products.

The pulse became imperceptible, and respiration entirely ceased, necessitating a rapid termination of the operation, and an incision being made in crico-thyroid space, a large tracheotomy tube was introduced, and by artificial respiration, patient restored so that heart's action and respiration were resumed.

Cyanosis now disappeared, but patient still remained comatose.

Stimulants, and digitalis, and shortly afterward, atropia, were given hypodermically. At 1:30 a. m. the temperature was 104° Fahr. Respiration grew very peculiar, there being a series of forcible inspirations, with occasionally complete suspension of movements, followed by several gasping inspirations.

On performance of artificial respiration breathing was resumed as before. After administering the atropia, respirations grew very forcible, and 60 per minute. A sponge bath was given at 2 a. m. The trachea was several times partially cleared of blood, by the use of a large syringe and rubber tubing, but not proving efficient, forcible expulsion of the blood was caused by throwing weight forcibly against the thorax, at termination of a full inspiration, an assistant catching the blood quickly with a sponge. In this manner quite a quantity of blood was removed. The patient remained comatose, and died at 4:30 a. m., five and a half hours after operation, apparently from failure of respiratory sense. On autopsy, nothing distinctive was discovered save œdema glottidis, which was very marked. Absolutely nothing was discovered to account for the cerebral symptoms which were manifested.

REMARKS.

The points of interest in the case are these: The evident malignity of the case, as evidenced by its rapid course, after admission to the hospital; its obscure nature; the occurrence of intense œdema glottidis as a result of the cellulitis of neck, and apparent presence of an element of a toxical nature. The inference which I drew from the symptoms, and history of the case was, either that he had received an injury while intoxicated, which subsequently became inocculated with some septic poison with cellulitis as a consequence, or that he had been stung by some insect. The case in some respects, was not unlike "malignant pustule" so-called. There was evidently some interference with

the respiratory sense, which was not accounted for by any pathological change in the brain or its membranes.

Congestion from obstruction to the return circulation, may possibly have been the cause, but there were no post-mortem evidences of it. I can not imagine a more unfavorable case for laryngotomy unless in such cases as of tumor covering the larynx and trachea. The operation itself was successful inasmuch as it fulfilled the indications present, and if the result of the case had depended entirely upon the œdema glottidis, it would have been favorable. It illustrates very forcibly the fact that no delay in operating is admissible in cases of the kind, and in a similar case, I should operate much earlier. The prompt stimulation of the respiration by atropia, and the method adopted for clearing the trachea of blood, were also interesting features of the case.

THE INTERNAL ADMINISTRATION OF THE ETHYL BROMIDE.—Satisfied as to this, we were determined to obtain information as to its action when administered internally; and for that purpose gave to three of the animals respectively 10, 20, and 30 minims of the ethyl. While producing in the larger doses more markedly a slight intoxication, no other serious symptoms arose. Encouraged by this, we commenced taking it ourselves, well diluted, first in doses of 5 and 10, and then 25 and 30 drops, without discovering any noticeable effect, save that of slight sleepiness induced by the larger doses. A nervous headache, existing during these experiments, seems by the ethyl to have been entirely relieved, which however might have been the case had any other bromide been taken instead. That it may prove of decided benefit in nervous irritation and hysteria is readily to be inferred herefrom.

To the taste it is sweet and pleasant, but heating to the mucous surfaces, and it should be well diluted before it is administered.—*L. Wolff.*

Clinical Reports.

NOTES FROM HOSPITAL PRACTICE.

ARTICLE VIII.

Surgery in Mercy Hospital.

In presenting this incomplete sketch of surgical work in Mercy Hospital, I purpose speaking of the general management of cases, number and character of operations, and of results, hoping to give such facts as will interest and instruct the reader.

Too many reports that find their way into medical journals are composed of glittering generalities, sparkling rhetorical figures that illuminate the *successes* while they obscure the instructive *failures*. The data for this report may be found in the daily Surgical Records of the Hospital from October 1, 1879, to April 1, 1880.

Surgical patients have "*the best the house affords*," of large, well-lighted, well-ventilated wards, and equally well-lighted, and ventilated elegant private rooms. Especial attention is given to heating and ventilating all apartments.

Dr. Edmund Andrews, Prof. of Principles and Practice of Surgery in Chicago Medical College, is Surgeon-in-Chief, the House Surgeon acting entirely under his orders. Each patient has his own sponges, towels, wash-bowls and bandages; in no case is he allowed to use his neighbor's. All wounds are dressed by the house surgeon or his assistants, who are members of the *middle* or *senior* classes at the Chicago Medical College. Nurses are not allowed to do dressing.

Wounds are dressed *once* or twice a day, as the case demands, and treated in the following way: first, they are thoroughly

cleaned with tepid water containing two and a half per cent. carbolic acid, then covered with cotton saturated with olive oil containing eight per cent. carbolic acid; this is held in place by several turns of a roller bandage.

After dressing each patient the dresser disinfects his hands and instruments that the next patient may not be contaminated. The house surgeon makes a careful record of each patient's condition at least twice a day. Sulph. cinchonidia, quinine and the preparations of iron are used for general tonic purposes; quinine, aconite and salicylic acid are employed to control temperature and pulse.

In all operative cases, when it is possible, a preparatory course of treatment for a few days is employed, that the system may be in the best possible condition for operation. Dr. Andrews performs all operations in the Hospital amphitheater, in the presence of the class from the college. Ether is the anæsthetic employed. The result of some experiments with ether will appear later in this report.

During the six months previously mentioned there were 163 surgical cases treated in Mercy Hospital; 125 operations performed; 75 of these under an anæsthetic. Among some of the most important cases were 20 of fractures, 10 necroses, 2 stone in bladder, 6 epithelioma of lip, 5 hare-lip and cleft palate, 13 cancerous and fatty growths, 2 abscess of tibia, 3 aneurisms, 2 extrophy of bladder, 2 amputations and 1 tracheotomy, performed.

The average time that fracture cases remained in the Hospital was 27 days, necrosis cases remained 47 days, amputations 23 days, staphylorraphy cases 15 days. Abscess of tibia 21 days, epithelioma of lip 12 days, and removal of other growths 14 days.

Of the whole number of cases treated 78 were discharged cured, 63 improved, 16 unimproved, and 6 died. Showing that *about* three and a half per cent. of all proved fatal, ten per cent. unimproved, thirty-nine per cent. improved, forty-nine per cent. cured.

It being thought that a volatile oil mixed with ether would lessen the tendency to vomit, we tried the use of ℥j of oil of turpentine to 1 pound can of ether, in 74 cases of which 21 vomited.

Twenty-eight cases were tried without the turpentine, 6 vomited. About twenty-eight per cent. of the former and twenty-two per cent. of the latter vomited. We stopped the use of the turpentine. (Twenty-five of the above cases were in Dr. Andrews' private practice.)

A report such as this must ever be incomplete and fragmentary, but if any information can be derived from it I shall be well pleased. As I previously remarked, every statement here is based on the surgical records of the Hospital, and can be verified by reference to them, now in possession of Dr. Edmund Andrews.

J. J. LARKIN, M.D.,
Former House Surgeon, Mercy Hospital, Chicago.
SOUTH CHICAGO, Dec. 15, 1880.
Cor. Commercial Ave. and 92d St.

NOTES FROM PRIVATE PRACTICE.

ARTICLE IX.

Beef Suppositories.

Though the rectum is, strictly speaking, an excretory organ, it may nevertheless, by virtue of its absorbing power, take the place of the stomach and small intestine in the ingestion of medicinal and alimentary agents. Dupuytren used to say that, owing to the absence of digestion the agent passes more directly, more purely and more surely to its destination from the rectum than it does when taken by the stomach. Hence the speedy efficacy of chloral in mania and the vomiting of pregnancy; of opium and ipecac in dysentery, etc. With this fact in view I have lately used Johnston's or Liebig's beef extract incorporated with cocoa butter in the form of suppository to support life in chronic gastric disorders, adynamic diseases and all cases where the administration of food by the ordinary channel was impossible. The beef is easily combined with the butter, or to save time or for other reasons, the hollow suppositories may be used. The advantage of these suppositories over the beef *injection* will immediately commend itself. DR. JAMES I. TUCKER.

Foreign Correspondence.

ARTICLE X.

VIENNA, November 20, 1880.

EDITORS MEDICAL JOURNAL AND EXAMINER:

The winter session opened October 11, with a large attendance, including a delegation of some 150 Americans. New York and Boston furnish, perhaps, one-half of our countrymen here, the Western cities being rather scantily represented. Chicago has at present four representatives here; St. Louis and Cincinnati each three.

The university has recently sustained a severe loss, as you have doubtless learned, in the death of Prof. Hebra, and has this week been called upon to mourn the loss of the senior surgeon, Dumreicher, who enjoyed a very high European renown, though in America not so famous as his colleague, Billroth. Hebra has been succeeded by his son-in-law, Kaposi, for many years his hospital assistant. Dumreicher's successor will probably be Czerny, of Heidelberg.

The teaching in obstetrics here offers several points of interest. They esteem very highly, and practice very skillfully, the *external* examination of the pregnant woman, a proceeding by which the position and presentation of the child can be in almost all cases accurately determined without vaginal examination, in some instances even when the latter proceeding gives negative results. The advantages of such a measure, more especially in private practice, are obvious. They are very successful, too, in avoiding serious ruptures of the perineum. For this purpose they oppose the uterine contractions as soon as the perineum is somewhat distended, pressing the head not only upwards against the perineum,

but also backwards toward the promontory. If rupture still threatens they make epiphyseotomy, cutting one or both labia slightly, just below the venous plexus. After the expulsion of the child the hand is never, under ordinary circumstances, introduced into the vagina; the placenta is expelled by Crédé's method and carefully examined as to its integrity; the parturient canal, uterus included, is carefully and thoroughly washed out with a two per cent. carbolic acid solution applied by means of a fountain syringe. The uterus is compressed and kneaded daily for three days after delivery, each compression being followed by an irrigation. To these measures is credited the fact that among the ten thousand annual deliveries in the hospital, many of them attended by men who are at the same time dissecting, puerperal fever is a comparative rarity.

The application of the forceps is here considered advisable whenever the head has for three hours failed to advance. Simpson's forceps is almost invariably used. Braun recently exhibited and discussed the very elaborate new forceps of Tarnier, deeming it a useful instrument in special cases only.

Braun advocates very strongly the extirpation of the pregnant uterus with ovaries as a substitute for the Cæsarean section, not simply because of the subsequent immunity from similar operations conferred upon the patient, but because the operation is, in his opinion, less dangerous than the Cæsarean. He shows a record of six cases with four recoveries. His colleagues, however, both in and out of Vienna, are by no means so sanguine; indeed the collective statistics scarcely give the operation any claim to superiority over the old one, the results in Italy, where the measure originated, having been especially unfavorable. Braun maintains his opinion, however, and hopes to repeat the operation soon on a woman with deformed pelvis—conjugate diameter six centimeters—now in the hospital.

The point is really one of some importance here in Austria, where rachitis is so prevalent among children, and hence, deformed pelvis, so numerous among adults.

In gynæcology I have seen nothing especially new. They tacitly admit here that America leads the world in this branch, and speak with generous admiration of Sims and Bozeman, from

whom they confess to have learned several things about operations on the cervix, and on vaginal fistulæ.

Stricker is out this year with a series of new observations upon points both old and new. Among other things he fires, to use his own words, "the last dart required to demolish" Cohnheim's emigration theory as to the origin of pus. By means of artificial irritation, Stricker induces suppuration on the center of a frog's cornea, a tissue which, as is well known, contains no blood-vessels in the normal state, and in which none are developed until after the appearance of pus around the focus of irritation. In this tissue he demonstrates to his class the formation of pus through the swelling and subdivision of the corneal cells, the intercellular substance at the same time disappearing. No emigration of corpuscles to the inflamed point can be discovered. Stricker insists that Cohnheim, while demonstrating indisputably the emigration of the white corpuscles, quietly assumed that these corpuscles constituted pus.

His chief efforts however, have been devoted to the elucidation of several points in the pathology of the nervous system, employing for this purpose, in addition to other lower animals, several apes. His results I shall hope to communicate to the JOURNAL in my next.

W. T. BELFIELD.

BINDING ADVERTISEMENTS IN MEDICAL BOOKS.—Blending books and catalogues is never agreeable, but when it comes to putting in about as much catalogue as there is book it is time that something were said against it in self-defense. No less than *sixty* pages of a book-list appear in the recent reprint of Savage's *Female Pelvic Organs*, published in Wood's Standard Series for 1880. What otherwise must have proved in every way an attractive volume is completely spoiled in its appearance. As a specimen of book-making, aside from its well-executed plates, it is decidedly the most execrable that has confronted us for many months.—*Medical Library Journal.*

Domestic Correspondence.

ARTICLE XI.

PHILADELPHIA LETTER.

MESSRS. EDITORS:—A glance at the social aspects of professional life in this city may perhaps not lack interest for your readers, and although your correspondent cannot at this time enter into detail, nor indeed do more than touch upon one or two points of this subject, yet to the intelligent man, and especially to the physician, the life of his professional brethren in a distant city cannot be altogether uninteresting, and may in some aspects be highly instructive by example or warning.

One of the characteristics of professional life here in Philadelphia is our comparative freedom from those bitter feuds and heart-burning jealousies which prevail in other large cities, where perhaps there may be more inequality of success than with us, and where the race for wealth alone is more reckless and furious than with our comparatively cool and calm citizens.

But if we are comparatively free from some of the faults of our neighbors, we suffer from others to which perhaps they are less subject. Possibly we are too prone to underrate our home talent, and I have heard it said that in Philadelphia a reputation is the echo of foreign rumor, and that it is not until a man is the recipient of honors from distant parts that his fellow-townsmen begin to wake up to the fact that So-and-so has more in him than any one suspected. Our Quaker progenitors are answerable for some of this feeling; they used to put down with a firm hand any attempt at show, and especially if this was not backed by substance. When I was a medical student, a rather seedy-looking old gentleman used to haunt the hospital, of whom the story

was told that his professional life had been blighted by the severity of the "Friends." It was said that on entering into practice, young Benjamin, who was a "Friend," assumed a modest but stylish turn-out, with which he could be seen driving rapidly up and down the streets of the Quaker city, then (for it was sixty years ago) much quieter and smaller than now, and attracted the attention of the good people going to "meeting" by the evidently thriving practice the young man enjoyed. In a few weeks, however, the young man was waited upon by two solemn brethren in portentously broad brimmed hats, who said, "Benjamin, the meeting understands that thee hast been seen of late driving about the streets of this town in a new and expensive vehicle called a gig. Now thee must know that the friends are aware thee hast no need of such a conveyance, and that thee canst ill afford the expense thereof. We therefore admonish thee that thou at once give up this idle display, or thee wilt render thyself liable to discipline." The gig was given up, but the poor young doctor never recovered from the blow, and though gaining some reputation, he never gained sufficient practice to warrant the purchase of a vehicle. There in his office, where the old broad-brims admonished him, he has lived all these years, and as I sometimes pass the little old-fashioned house away down town, and see the battered sign with the letters long illegible, and the gray-haired old gentleman sitting inside, I think of this story current among the hospital students, and think that if it wasn't true it was typical.

Perhaps, however, though this democratic levelling and universal combination against undue pretension has its evil and narrowing side, yet it also has its advantages, and perhaps not least among these is that it is conducive to social amenities among the members of the profession at large. We have clubs of all kinds, large and small. Book clubs for the dissemination of medical literature which, especially in the outlying parts of the city, take on a social aspect and perhaps have a club-room and a library made up of the volumes which have circulated among the members. Some of these clubs and associations have festal gatherings from time to time, when the enjoyment is of a material sort; others meet to read papers or invite some big gun or specialist to read a paper before them. Then there are other

circles of a purely festive sort, meeting regularly week by week at the houses of the various members. An attempt at social enjoyment on a larger scale has been initiated this season, in the form of a series of receptions given by the president of the County Medical Society. This is our largest and most active society, and is truly representative. Here one may see the semi-rural practitioner, with mud-splashed boots, sitting cheek by jowl with the elegant and polished consultant, and the newly-fledged graduate drinking in the utterances of the professor who is holding forth on his specialty or his hobby. There is no better place to feel the pulse of the profession of Philadelphia, and no surer and quicker road to practice than is found there by those who show themselves the possessors of that sort of knowledge which the average practitioner wants to call upon in his hour of need.

Dr. Albert H. Smith, the well-known gynæcologist, is the present president of the "County Medical," and his receptions have been a marked success, and must redound to the advantage of the society. Not only all the members of the society have been at one time or another present at these agreeable reunions, but many outsiders who have been invited have found for the first time the advantage of meeting representative men, and have been induced to such membership, so that the aim of its promoters to limit the membership of the society only by the number of practitioners in the county, seems more likely of realization than one might suppose.

The medical profession here has been honored in the choice of one of its members to preside over our chief seat of learning, the University of Pennsylvania, Dr. William Pepper, Professor of Clinical Medicine in the Medical Department, having been recently elected by the trustees "Provost" of the University.

Such an honor does not often fall on so young a head (the new Provost is barely thirty-seven), and it is indeed rare to find among our busy and "practical" medical men the high general culture requisite to sustain this dignified position. But Dr. Pepper is no ordinary man. From early youth he has been marked as one likely to achieve more distinction than falls to the lot of men of average ability. At college I am told that he was easily first in everything, graduating at the head of his class and carrying off all the prizes in every branch. Not very long after

his graduation in medicine—at the early age of twenty-four, in fact—he obtained the position of attending physician to the medical department of the City Hospital, having at least 200 beds under his control. Here Dr. Pepper laid the foundation of the extensive and accurate clinical knowledge for which he is so distinguished. Every morning, punctually at half past seven, he was accustomed to make his appearance in the ward, and accompanied by the resident physician, who was expected to take full notes from his dictation, he went from bed to bed, working thus until nine, when he left the wards and spent an hour in the post-mortem room, there also dictating copious notes. His clinical lectures, even at that time, were models of terse and flowing English. A rapid speaker, never hesitating for a word, his utterance singularly clear and musical, he rivetted the attention of his audience, and aside from the value of his teaching delighted those who had an ear for delicate shades of meaning by choosing instinctively the exact word or expression which would best convey the idea. I speak in the past tense because my knowledge of Dr. Pepper as a hospital physician and lecturer is confined to that period of his career, and I have rarely heard him lecture of late years, although I have no doubt he still maintains the high reputation made at that time.

His first literary work was in connection with Dr. J. Forsyth Meigs, of this city, in getting out a new edition of this gentleman's work on diseases of children. It is an open secret that the major part of this edition, which was in reality almost a new book, was written by Dr. Pepper. The reputation it has made is very great, and "Meigs and Pepper" has become one of the standard works on the subject of which it treats. But Dr. Pepper's genius shows more in the executive ability which he displayed in reanimating the moss-grown and decrepit medical department of the University. Ten or twelve years ago this had fallen into a mouldy decline. Content to dwell in the glories of the past, the Professors appeared careless of the present reputation of the institution under their charge, which was rapidly falling hopelessly behind the age. At that time, so meagre was the clinical instruction afforded that students have been known to graduate without ever having felt a pulse or touched a sick person.

Out of this slough, Dr. Pepper, aided by a few other young men, dragged the palsied and decrepit *Alma Mater*, set her on her legs, and not merely galvanized her into life, but by a judicious transfusion of new blood, rejuvenated her and placed her in the first rank among American medical institutions. The man who could do that was evidently the man to raise the whole University, and the election of Dr. Pepper to the Provostship has been hailed by all the friends of the University, one of whom, a wealthy merchant, has just given $50,000 for the purpose of building a new wing for the University Hospital. One of our morning papers compared Provost Pepper's proposed work to the labors of Hercules, but we have in him a Hercules of sufficient energy to do the work. His device, which I happened to see in a book-plate in one of his books, is a thorn-bush with the motto of Sainte Aldegonde, one of the noblest spirits who ever lived, "*Repos Ailleurs.*" And this active spirit which, not content with the duties of hospital physician and Professor of Clinical Medicine, with a large practice, desires for itself more occupation, will doubtless succeed in this task, also, as in all others hitherto undertaken.

Among smaller matters of local interest I may mention the appearance of a joint work on typhoid fever by Prof. Da Costa and Dr. Ellwood Wilson. The former, who is getting out a new edition of his famous work on diagnosis, is too well known to need further mention. Wilson has only a local reputation; he is, perhaps, the most fashionable doctor in town; for a Philadelphia woman to lie-in without Wilson in attendance, is to forfeit the consideration of society. Prof. H. C. Wood has just gotten out a work on diet in disease, in collaboration with Dr. J. Milner Fothergill, of London. The second edition of Prof. Duhring's "Treatise on Diseases of the Skin" will be out in a few weeks; it is like a new work, the author having revised every page with the painstaking care characteristic of himself.

Your readers who have followed the history of the notorious "Dr." Buchanan, will be interested in hearing that he has been fined $500 and sentenced to imprisonment for ten months. The "mill" has been permanently closed, its charter having been revoked.

PHILA.

Reviews and Book Notices.

ARTICLE XII.—THE PHYSIOLOGY OF WOMAN; embracing Girlhood, Maternity and Mature Age, with Essays on "Co-education of the Sexes in Medicine," "The Physiological Basis of Education," "Temperance from a Physician's Point of View," and "A Plea for Moderation." By Sarah Hackett Stevenson, M.D., Adjunct Professor of Obstetrics, and late Professor of Physiology in the Woman's Medical College of Chicago. Cushing, Thomas & Co., Chicago; 1880.

This book conveys some information which is sadly needed. In the introduction the author disclaims any intention of having endeavored to write a "*medical book.*" The volume contains no formulas. It is a book of *advice and instruction* to women, couched in the plainest terms and clearest language. No wife or mother, who will read the book carefully and thoughtfully can fail to understand every sentence in it. The information conveyed is also of the most *practical* kind. And besides that, it is of a kind which is needed. The average woman goes through the world in total ignorance of some of the most important facts pertaining to her condition as a wife and mother. Dr. Stevenson has succeeded admirably in selecting the topics which are perhaps of the greatest importance to women in every-day life, and has therefore written a book which is *useful.*

On the 107th page the statement is made that "there are no cases on record of death from *chloroform during labor.*" This assertion needs to be modified somewhat. That there is greater immunity from danger in administering chloroform during labor than in non-parturient cases, the profession will pretty generally admit, but the fact that there are on record authentic reports of

death from the inhalation of chloroform during child-birth, should be sufficient to make every physician careful in its use.*

On the 108th page this sentence occurs: "I consider the moderate use of chloroform *perfectly free from danger* in the first and second stages of labor." Were this book intended for the use of practitioners, this statement would be received with due allowance; but the fact that persons, inexperienced in the use of chloroform, will read this book, carries with it an element of danger, in that it does not lay sufficient emphasis upon the fact that the administration of chloroform is not free from danger *under any circumstances*. With this exception the advice given for the care of the parturient woman and new-born child is excellent.

The author touches upon several points not treated by medical writers generally. The question, "Who shall tell the children of their origin?" is answered in a very satisfactory way. The four essays mentioned in the title of this work are able and well written. Taken all in all, this volume is one which deserves a careful reading by every mother in the land. The typography of this work is of an inferior character. The binding is very imperfectly and cheaply done. B. W. G.

ARTICLE XIII.—CONSUMPTION; AND HOW TO PREVENT IT. By Thos. J. Mays, M.D., Member Pennsylvania Medical Society, Author of "On the Therapeutic Forces," etc. New York: G. P. Putnam's Sons.

In the introduction to this book the author portrays most vividly the wide-spread and terrible fatality of consumption. The number of deaths from this disease in the United States, during the year 1870, was 69,896. Here is another startling statement: "The whole of Maine and New Hampshire, the most of Vermont, Massachusetts, and Connecticut, and all of Northern New York, show that *two thousand* (2,000) out of every *ten thousand* (10,000) who die, owe their death to consumption."

Dr. Mays argues that if physicians could only be paid for *preventing disease*, the high mortality of these regions above men-

* See paper by Prof. Wm. T. Lusk, M.D., of New York, on the "Necessity of Caution in the Use of Chloroform during Labor."

tioned, might be lowered. He then, after briefly considering the nature of consumption, proceeds to enumerate the prophylactic agencies that can be brought to bear against this "ghastly enemy of mankind." The influence of foods, air, soils, clothing, light, physical exercises, digestion, disease, infant diet, cod liver oil and other fats, as factors in the causation or prevention of consumption, is affirmed, by the author to be very great.

On page eighty-seven the relation of alcohol to disease is considered. It is called "a double-edged instrument," powerful for good or evil. But there is no doubt that the author states the opinion of the very large majority of medical men when he advises the moderate and guarded use of alcohol in consumption.

The book is written with a spirit of candor and consistency which ought to give it a reading by a great many physicians.

The hygienist has in this book a suggestion which is worthy of consideration. B. W. G.

ARTICLE XIV.—THE ART OF PROLONGING LIFE. By Christopher William Hufeland. Edited by Erasmus Wilson, M.D., Author of "A System of Human Anatomy," etc. From the last London Edition. 12mo., pp. 300. Lindsay & Blakiston, Philadelphia: 1880.

The author, a German philosophic physician, lived a hundred years ago, but his work is very modern on account of his advanced views. The philosophy of the subject is deep, evident, simple and clear; worthy of recent naturalists, as these quotations show:

"I can at any rate assert that physical and moral health are as nearly related as the body and the soul.

"The business of thinking itself, as carried on in this mortal machine, is organic."

It is obvious that medicine had not yet reached its present scientific stand-point, since the author says that "Many diseases may be the means of prolonging life," and "The application of medicine is nothing else than exciting an artificial disease, in order to expel one that is natural."

The editor has ably amended some similar faults, and added very interesting notes, which might be more numerous.

A feature of this book is that it was written for the public as well as for the profession, and is very interesting to both. Every scientific man should have a copy of it on his shelf.

The first part is a sketch of the history of medicine and hygiene, and of comparative life, with valuable statistics. The second part treats of the (well-known) means which shorten life, and the third and last, of the means which prolong life.

H. D. V.

ARTICLE XV.—HEALTH AND HOW TO PROMOTE IT. By Richard McSherry, M.D., Professor of Practice of Medicine, University of Maryland; President of Baltimore Academy of Medicine, etc. D. Appleton & Co., 1879. New York.

Hygiene, both public and private, is a subject of ever increasing importance. When it is better appreciated and understood, therapeutic measures can be more effectively carried out, for then the medical profession will have, to a greater or less extent, the co-operation of the laity. Dr. McSherry has done a good work. He has not attempted to write a book for professional men alone.

The general public will read it with interest for two reasons: First, it contains a vast deal of information in which the reading public is deeply concerned. Second, it is written in a style which is free from technicalities, and which pleases while it instructs. Part II is especially entertaining, and at the same time eminently practical. We commend the book to those who are interested in preventive medicine. B. W. G.

ARTICLE XVI.—CLINICAL LECTURES ON DISEASES PECULIAR TO WOMEN. By Lombe Atthill, M.D., Master of the Rotunda Hospital, Dublin, etc., etc. Fifth edition. Illustrated. Philadelphia: Lindsay & Blakiston; 1879.

Like most other books, this volume has its faults and its excellencies. The style is clear and perspicuous. There is no ambiguity about it. Dr. Atthill has the enviable faculty of saying what he wants to say, without any circumlocution. But the manner is perhaps, better than the matter. There is nothing new in this book. In fact there are some things advocated and recom-

mended which are not abreast of the age. Fergusson's speculum is recommended for "*general use.*" It is certain that there are several patterns of bi-valve specula infinitely to be preferred to Fergusson's for "*general use.*" Again Dr. Atthill says "some practitioners have a great dread of applying caustics to the interior of the uterus, *a fear which is totally groundless.*"

This is plainly unsound and unsafe doctrine. In well selected cases this practice may be followed, but that there is need of caution in the employment of nitric acid and similar agents, is admitted by the very large majority of practitioners in this country. The author's teachings in these lectures are calculated to give a feeling of unconcern and almost recklessness in making topical applications to the endometrium.

Want of space prevents a detailed notice of all these lectures. Taken as a whole, the book is a good one to read. It is written by a man of large experience in his profession. B. W. G.

BOOKS AND PAMPHLETS RECEIVED DURING DEC., 1880.

A Treatise on Fractures and Dislocations, By F. H. Hamilton, M.D., LL.D. H. C. Lea's Son & Co., Philadelphia; 1880.

A Treatise on Diphtheria. By A. Jacobi, M.D. Wm. Wood & Co., N. Y.; 1880.

A Practical Treatise on Surgical Diagnosis. By A. L. Ranney, M. D. Wm. Wood & Co., New York; 1880.

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Transactions American Otological Society, 13th Annual Session. Vol. 2, part 4.

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Pathology and Treatment of Epulis. By N. Senn, M.D., Milwaukee.

Higher Education of Medical Men and its Influence on the Profession and Public. By F. D. Lente, A.M., M.D.

On the Mangement of Infantile Eczema. By L. D. Bulkley, M.D.

Causation of Idiocy. I. N. Kerlin, M.D.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States, for the year 1880.

Pneumo-Dynamics. By G. W. Garland, M.D.

Acts of the Legislature of Louisiana in Regard to Quarantine. By J. Jones, M.D.

Atlas of Histology. By E. Klein, M.D., and H. E. Noble Smith, M.D. Part XI. Philadelphia; 1880. J. B. Lippincott & Co.

THE USE OF THE ACTUAL CAUTERY IN ULCERATION OF THE CORNEA. By Dr. Fuchs, (Vienna.)—The application of the actual cautery in cases of ulceration of the cornea was, so far as Dr. Fuchs knew, just adopted by Martinache, of San Francisco, and Gayet, of Lyons. At the meeting of the German Ophthalmological Society, in 1870, Prof. Sattler mentioned the success which had attended it; and Dr. Fuchs had since employed it in appropriate cases in Prof. Arlt's clinic, with encouraging results. The instrument used by him consisted of a ball of the size of a large pea, with an arm like that used by dentists for the destruction of the dental pulp. It was easily heated red in any good gas flame, and was best applied when the iron was beginning to become black. He had used it in abscesses of the cornea and in ulcus rodens. The abscesses were partly traumatic and partly spontaneous; some were the result of smallpox. The application was not followed by any serious reaction. He regarded the action of the cautery as that of a powerful caustic, destroying the suppurating parts and the infectious germs contained in them. Its great advantage consisted in its strict limitation to the affected part. Dr. Fuchs believed Paquelin's cautery, or the galvano-caustic apparatus, liable to become too hot, while the point of the latter was too large for application to the cornea.—*Extract from the British Med. Journal's Report of the Forty-eighth Annual Meeting of the British Medical Association.*

Editorial.

THE AMERICAN MEDICAL COLLEGE ASSOCIATION—WHAT IT IS, AND WHAT IT SHOULD BE.

In two preceding numbers of the JOURNAL AND EXAMINER, such facts have been adduced as show most conclusively that the suggestions put forth in the New York *Medical Record*, to the effect that the reason why some of the medical colleges in the "great Eastern cities" have not joined the American Medical College Association, and others have withdrawn from it, is because the Association is constituted chiefly of the "smaller colleges scattered throughout the West and South," and therefore could not adopt any important reforms without a fatal loss of membership, is entirely without foundation. On the contrary, the facts show that, in regard to every important reform in the system of medical education, the medical colleges "scattered throughout the West and South" have been ready and anxious to adopt all these reforms ever since the College Conventions of 1867 and 1870.

The facts also show, that the members of the present College Association in the West and South have advanced their lecture fees—have lengthened their College terms—have exacted the three years of medical study—have completely suppressed the practice that had existed in a few schools of giving two graduating courses of college instruction in each year; in a word, they have promptly complied with the Articles of Confederation adopted by the Association on the completion of its organization; and at the last meeting they took a most important step in advance, by so amending the Articles of Confederation that, after 1882–3, attendance upon *three* annual courses of college instruc-

tion should be required as a condition for final examination for the degree of M. D. Not one of the colleges in the great cities of Philadelphia, New York or Boston, have even proposed a measure of reform or advancement in a meeting of the Association since the completion of its organization in 1877; and, singularly enough, the only opposition made to the exaction of attendance on *three* annual courses of college instruction before graduation, by the Association, was inspired by the representatives of the only large medical school located in one of the great Eastern cities, that remained a member of the Association at the time the action was taken. With such a record of historical facts relating to the progress of events during the last fifteen years, the attempt to explain the conduct of the medical colleges in the "great Eastern cities" towards the American Medical College Association, on the pretense that such Association "can do them no good" on account of its inability to adopt any "important measure of reform without a fatal loss of membership," is something more than ludicrous. We have made the foregoing statements in defense of the College Association and the so-called "smaller colleges scattered throughout the West and South" that make up its present membership, solely in the interests of truth and justice. The Association is neither a child of our creation nor a special pet of our nursing. We joined it because its avowed object was to advance the cause of medical education; and we have cordially sustained it because, thus far, it has steadily advanced in the direction of its avowed purpose, and not because we supposed it would do us or the school we represent any special good. If representatives of all the "larger schools in the great Eastern cities" had pursued the same course, thereby placing the medical colleges in all the larger cities of the country, East and West, North and South, in concert with each other, every important measure of reform or improvement in the system of medical education could have been carried into practical operation in less than five years, without the loss of any College members except such as are so located that they never should have been created. Inasmuch, however, as the large colleges in the great commercial centers of the Eastern part of the country have refused such co-operation, and thereby left the

membership of the Association almost entirely in the West and South, let their friends and apologists hold them to their proper responsibility, and not make themselves ridiculous by attempting to shirk it upon others. That the refusal of the Eastern colleges to co-operate with, and share in, the direction and work of the Association is discouraging its friends and rendering its future progress uncertain, is apparent to all who bestow a thought upon the subject. That the withdrawal from membership of the New York and Philadelphia schools already mentioned will be followed by a withdrawal also of some schools in the West, we have no reason to doubt. Indeed, we are informed that the oldest medical college in this city, while enjoying the attendance of a class numbering four or five hundred, has already followed its Eastern examplers by notifying the Secretary of the Association of its withdrawal from membership. If the same course should be pursued by a few other schools in the West, it would certainly render the present organization of the Association powerless so far as the enforcement of just requirements are concerned, and yet an active and persistent maintenance of its organization and consistent advocacy of right measures might do much good in aiding to create and sustain a proper public sentiment, both in and out of the profession. In our estimation there is, and has been from the beginning, a radical defect in the organization of the Association.

As was intimated in our first editorial, in the October number, the Articles of Confederation establish a league or combination more for the purpose of correcting certain abuses than for the inaugurating of a reasonable standard of medical college education. These Articles, consequently, embody stringent rules against the issuing of scholarships and the various modes of pecuniary underbidding; against two graduating terms in one year; and for not less than three years of study, two annual courses of college instruction, and an examination in the seven principal branches of medical study.

But they give no definition of what should constitute a medical college, capable of imparting an adequate and proper medical education; neither do they indicate any standard of preliminary or general education that the student should comply with before

commencing the study of medicine. These omissions of what should constitute the chief foundation of such an Association deprive it of all influence over the formation of new colleges, and of all power to maintain any standard of equality among its own members. Any six or eight doctors can club together and organize a college in a country village or at a road crossing, and though there may be neither a hospital or dispensary containing materials for clinical instruction, nor the slightest provision for practical instruction in chemistry, microscopy or physiology, yet if they issue a circular announcing that they observe the proper rules in regard to fees, require *three* years of study, two courses of lectures of not less than twenty weeks each, and an examination on the seven principal branches, they can at once apply for the admission of their institution to membership in the American Medical College Association, and there is nothing in the Constitution of the Association on which there can be founded any opposition to such admission. Experience has already shown that it is just this class of institutions that are most anxious to become members, because such recognition tends strongly to give them a degree of respectability they could not otherwise have. If, instead of standing aloof, the regular medical colleges in the larger cities of the East would directly unite with those similarly located in the chief cities of the West and South, in adopting such a standard of what should constitute the essentials of a medical college as is outlined in the following quotation from the report of a committee, made at the last meeting of the College Association, they would at once place our system of medical college education on a respectable basis, and would maintain a controlling influence over the character of all new college organizations. The part of the report to which we allude reads as follows:

"In considering what constitutes a proper standard for a college, we must determine: First, What constitutes a proper or adequate medical education? Second, What is the minimum length of time required for a fair acquisition of such an education? Third, What part of such time should be spent in direct attendance on a medical college? and, Fourth, What are the appliances, means of illustration, and facilities for imparting

practical knowledge, that are necessary to constitute a college capable of performing all the functions required of such an institution.

"The first of these questions may be answered by saying that an adequate medical education is such as gives to the student a fair practical knowledge of all the branches of medical science, and a mental discipline sufficient for the proper use of such knowledge in the practice of the medical art. We use the words 'practical knowledge' as implying something more than mere verbal knowledge. For instance, a student might study a text-book on human anatomy until he could describe every bone in the skeleton, state the origin and insertion of every muscle, and give the distribution of the blood-vessels and nerves, and thereby sustain a fair verbal examination in that department. Yet, if he had never either dissected a subject himself, or witnessed the actual demonstration of each part by a competent teacher, he would be entirely devoid of that *practical* knowledge necessary to guide him in the operations of surgery. The same is true of most of the branches of medical science. Therefore, a practical knowledge of these various branches necessitates demonstrative teaching and personal manipulation, which can be provided in an adequate degree in medical colleges only. The amount of medical knowledge requiring for its proper acquisition this kind of teaching, makes it necessary that at least one-half of the whole time allotted as the period of medical pupilage should be spent in the medical college.

"As there are none at the present time who seriously claim that less than *three* full years should be devoted to diligent study of medicine, before graduation or commencement of practice, we may answer the second and third questions by stating that the minimum length of time required for gaining an adequate knowledge of medicine should be not less than three years; and that at least one-half of each of these years should be spent in a proper medical college. And this makes it necessary that the medical colleges, to be capable of performing their functions properly, should extend their annual term of active and obligatory instruction to six months of each year. It is obvious, also, that in answering the fourth question, we must insist that the

very objects for which medical colleges are needed, make it necessary that each one should not only provide a full curriculum of studies, a full corps of teachers, and an annual term of six months' instruction, but also a sufficient supply of anatomical material for demonstrations and practical dissections; a chemical apparatus and laboratory for practical or analytical chemical work; a histological and physiological laboratory for practical and microscopic work; a museum containing a collection of specimens of normal and pathological anatomy sufficient for illustrating the departments of pathology, practical medicine and surgery; and access for the students to a hospital containing a daily average of not less than thirty patients actually in the wards for treatment and accessible for clinical instruction. A college which is so organized, or so located, that it does not or cannot provide for the daily use of its students all the resources here named, both for didactic and practical instruction, is not capable of performing all the functions that should be performed by every such institution that receives the patronage of the profession and the public. So long as the medical college diploma is recognized as a sufficient license to practice, every college asking for recognition should be required, in addition to possessing the foregoing means for adequate instruction in all departments, to exact proper evidence from every student that he possesses at least a good English education before allowing him to become a matriculate of the college; and after matriculation, he should be required to attend *three* regular annual terms of medical college instruction of not less than six months each, and the last of which should be in the institution granting him a diploma."

The adoption of such a standard as here indicated, by which the objects to be accomplished by a medical college and the means necessary for accomplishing them, should be clearly defined and adopted by the colleges in all parts of the country so located and organized as to be capable of doing so, would be promptly and permanently sustained by every important medical society organization; by the State Board of Examiners; and, so far as necessary, by State legislation. Will the colleges in the "great Eastern cities" make the necessary move in the matter, or will they

continue to play the "dog in the manger," each for itself, and continue to make the so-called "smaller colleges scattered throughout the West and South," the *scape goats* for the sins that are pre-eminently their own? The responsibility is fairly upon *them*, and nothing can remove it but an open, manly co-operation on their part with such colleges in other parts of the country as have the necessary means for instruction, in adopting a proper standard of college organization, and maintaining it. D.

QUARANTINE AND PUBLIC HEALTH. — As our readers are aware, two medical assemblies occurred in New Orleans in the early part of December, 1880.

One was the regular annual meeting of the American Public Health Association, and the other a Special Quarantine Convention. The former appears to have been well attended, and many papers and reports on important topics relating to public health and the propagation of disease, were read and discussed. The National Board of Health received a due share of attention and approval. On the closing day of the session an Advisory Council of the Board was appointed, consisting of one representative from each State. The representatives in this Advisory Council for the Northwestern States are: Dr. J. H. Rauch, of Illinois; Dr. J. F. Hibberd, of Indiana; Dr. W. S. Robertson, of Iowa; Dr. H. B. Baker, of Michigan; Dr. J. T. Reeve, of Wisconsin, and Dr. C. M. Hewett, of Minnesota.

The Quarantine Convention, which was also attended by many of the delegates to the Public Health Association, appears to have done little else than to discuss the question whether the quarantine regulations of the Mississippi Valley, as well as the seaports, should be under the supreme control of the National Board of Health, or should remain under the immediate control of the local boards of each State.

It is evident that the members of the Convention were pretty evenly divided in regard to this important subject, and its consideration ended in no decision in favor of either party. As a

compromise, the following resolutions, offered by Hon. William R. Moore, of Memphis, were adopted, and the Convention adjourned. The resolutions are as follows:

Resolved, That the chair appoint two committees, to consist of seven members each, one committee to represent the Atlantic and Gulf States here represented, and one to represent the States of the Ohio and Mississippi Valleys, each committee to prepare a schedule of rules and regulations concerning those matters of quarantine sanitation which are common to the States of each region respectively, and which schedules shall be submitted to each of such States for ratification and adoption as a basis of action for the protection of the public health; no state to have more than one representative on either of said committees.

Resolved, That it is the duty of the general government to defray the expenses of all quarantine administration of this character which extends beyond the boundaries of a single State, and said committee are hereby authorized and instructed to take the necessary steps to secure adequate appropriations by Congress for this purpose; such appropriations to be disbursed and expended in accordance with the usual Treasury regulations concerning disbursements and expenditures.

Resolved, That the chair be authorized to announce the members of the committee at any time within the next ten days.

WE take pleasure in announcing to our readers that this journal of medicine enters upon a new year with better prospects than ever before. The performance of the promises made in the past is the best guarantee of the excellence of the work which is contemplated for the future. We shall, as heretofore, fill these pages with the original writings of the best men of the profession, at home and abroad, and shall continue to receive correspondence from our esteemed contributors, Drs. H. Osgood, of Boston; C. L. Dana, of New York; and A. Van Harlingen, of Philadelphia, to whom we are under obligations for their excellent letters during the past year. Our foreign correspondence will be conducted by medical men of this city who are abroad—our esteemed correspondent, Dr. Wm. Belfield now acceptably filling this position.

The department of original lectures will receive as much attention as heretofore, and we propose to publish with each year, an increasingly large number of these from the lips of the representative teachers of medicine throughout the country. In brief, we desire to announce that neither time nor expense will be spared to keep THE CHICAGO MEDICAL JOURNAL AND EXAMINER in the front rank of the medical periodicals of the United States.

Selections.

THE HUMAN FACE; ITS MODIFICATIONS IN HEALTH AND DISEASE, AND ITS VALUE AS A GUIDE IN DIAGNOSIS. By AMBROSE L. RANNEY, M.D., Adjunct Professor of Anatomy in the Medical Department of the University of the City of New York.

The extent to which the anatomy of the head, as studied from the stand-point of physiognomy, may suggest points of practical value to the physician or surgeon, has not, in my opinion, received sufficient consideration in the popular text-books of the day. From the *British and Foreign Medical Review* of 1841 I quote the following sentence: "Medical physiognomy is, in many instances, a source of diagnosis which seldom fails the practitioner who is himself well versed in it; and we believe that much of the exquisite tact in discrimination of disease, which distinguishes some practitioners and which others can never attain, depends upon the vivid perception of an eye and ear habitually familiar with the lineaments, the tone, and the gestures of disease." Among the earlier authors, who were ignorant of many of the present methods of determining the condition, size, and position of organs. since the art of auscultation and percussion is a growth of later date, the study of the human countenance formed a very important part of the preparatory drill. The followers of Hippocrates and Galen were rendered perfect in their perceptive faculties. The former gave to us, in his masterly work, descriptions of the symptoms of disease which are still considered classic, while the latter, in his essays on the "Temperaments,"* is equally careful to note the most trivial alteration either of the face or of the posture.

* Kuhn's edition.

There seems to be a growing tendency of late to regard the rational symptoms of disease as subordinate to the results of a physical examination, and as of but little value in themselves, except as confirmatory evidence. Authors frequently render the description of the symptoms of disease so terse and indefinite, that but few of the readers of the later medical or surgical works could precisely picture to themselves the *appearance* of a sufferer from any of the maladies, with the pathology and physical symptoms of which they may be thoroughly familiar. It is not infrequently the experience of the most erudite of the profession to be amazed at the gift, which is possessed by some less scholarly brother, of making a diagnosis, which seldom errs, without the aid of the thermometer or the stethoscope; and many an old nurse, long accustomed to spend weary nights in watching the sick, can often render a prognosis which seems little short of inspiration when her utter ignorance of all medical knowledge is considered.

Despite the fact that some of our best authors have denounced the attempts of De Salle, Jadelot, and Seibert to establish certain facial lines and wrinkles as of positive value in diagnosis, and have pronounced all such statements as a mere fantasy, still no one of large experience can deny that the face may at times afford most positive and valuable information.

In 1806, Lavater* published his work upon this subject, in which he discusses at great length the diagnostic value of general physiognomy. Subsequently, Sir Charles Bell wrote upon the subject from a purely anatomical point of view, and, in 1824, published his "Essays upon Expression." Baumgaertner† added his contribution to the subject in 1839, and Laycock,‡ in 1862, published his course of lectures, with illustrations, which were designed to show the various types of diathesis and their bearing upon the general development. Corfe, in 1867, published a series of contributions in the *Medical Times and Gazette*, in which the subject was studied from a clinical point

* "L'Art de connaître les Hommes par Physiognomie." Paris, 1806–'7.
† "Atlas," 1839.
‡ "Med. Times and Gaz.," 1862, vol. i.

of view, and in which not only the entire field of facial expression, but also that of general physiognomy, was pointed out to the student, so far as the cases under consideration illustrated any points of special interest.

Darwin's great work upon the expression of the emotions in animals and the contributions of Connelly * upon the typical shades of expression peculiar to the insane may well be read by those who question the utility of this much-neglected department of science. The careful study of the expressions of the face and the modifications which age produces in it, is at least very advantageous in furnishing a normal standard by which deviations in disease may be studied. I quote from the most excellent treatise of Blandin † the following sentence: "Those who neglect or seek to ridicule this mode of investigation prove only one thing, that they study pathology without a proper knowledge of anatomy and physiology, upon which the former is founded. The morbid expressions of the face are an extremely useful and often the only guide of the medical practitioner in the case of a very young child, that can tell nothing in regard to its sufferings."

It is with a view to systematize and arrange the collected investigations of the authors previously named, and to bring within the compass of a single article such practical information as the anatomy of the face may afford the practitioner, that I am led to draw professional attention to this subject once more.

The physiognomy of the sick presents innumerable shades of expression. It may assume the various conditions expressive of sadness, dejection, attentiveness, indifference, uneasiness, or terror; it may, at times, be smiling; occasionally menacing or wandering; and may sometimes show a series of changes in rapid succession.

These various conditions of the countenance may not only be the direct result of the influence of the ever-varying passions upon the muscles of the face, as is the case in health, but they may also be classed as morbid phenomena, each of which possesses some special significance. Chomel lays great stress upon

* "Med. Times and Gaz.," 1862.

† "Anatomie Topographique."

these variations of countenance, and endeavors to point out the special diagnostic value of each.

FACIAL LINES AND WRINKLES.—The theories of De Salle, Jadelot, and Seibert* as to the diagnostic value of facial lines and wrinkles have their share of support from time to time; while they have also been considered by some authors as speculative and destitute of any value. The existence of these marks may be attributable to one of two conditions, viz., a disappearance of the fat from the subcutaneous tissues of the face, or the

FIG. 1.—The Transverse Rugæ.

abnormal contraction of certain facial muscles, dependent upon some apparent irritation of the motor nerves supplying the affected muscles. It is important, in using these lines and wrinkles as guides in diagnosis, that the discrimination be made between those lines which are natural to the face of the sufferer and those which are developed as a result of the disease. For the reason that the face of the adult is always more or less marked by lines,† it must be evident that these lines are a more

* Williams, "Principles of Medicine."
† Blandin, op. cit.

reliable guide in the infant than in later life, if their diagnostic value remains unquestioned. Without entering into a discussion as to the merits of the question, I give the theories advanced for whatever interest and value they may possess to the reader. The wrinkles of the face may be classified into six groups as follows:

(1.) *The Transverse Rugæ.*—These are situated upon the forehead, and are formed by the action of the occipito-frontalis muscle. They are thought to be expressive of an extreme amount of pain, arising from causes outside of the cavities of the body.

FIG. 2.—The Oculo-frontal Rugæ.

(2.) *The Oculo-frontal Rugæ.*—These extend vertically from the forehead to the root of the nose, and are formed by the corrugator supercillii muscles. They are thought to express distress, anxiety, anguish, and *excessive pain from some internal cause.* It is said that they furthermore indicate an imperfect or false crisis; and that, in attacks of acute diseases, an impending

efflorescence and sometimes a fatal termination may be indicated by their occurrence. In those types of headache where the pain is very excessive, these rugæ may exist simultaneously with the ones previously described. It is stated that when the former rugæ meet the latter abruptly, during the course of an acute disease, some serious lesion of the brain, or its coverings, is developing.

FIG. 3.—The Line of Jadelot.

(3.) *The Linea Oculo-zygomatica.*—This line (the line of Jadelot) extends from the inner angle of the eye downward and outward, passing across the face below the malar bone. It is said to indicate, in children, a *cerebral or nervous affection;** and, in adult life, some disease of the genital organs, masturbation, or venereal excess.

* Vogel, "On Diseases of Children." New York: D. Appleton & Co.

(4.) *The Linea Nasalis* (Line of De Salle.)—This line extends from the upper border of the ala nasi downward, in a direction more or less curved, to the outer edge of the orbicularis muscle. This line is said to be strongly marked in phthisis and in atrophy. Its upper half (the linea nasalis proper) is thought to be a reliable indication of *intestinal disease*, if extensively developed and prominent; the lower half (the linea buccalis) is supposed to indicate the existence of some *disease affecting the stomach*. It is claimed by Peiper that, when this line appears conjointly with the line of Jadelot, it may be regarded as a positive indication of worms in children, if a peculiar fixed condition of the eye exists and a pallor of the face is present.

FIG. 4.—The Line of De Salle.

(5.) *The Linea Labialis*.—This line extends downward from the angle of the mouth till it becomes lost in the lower portion of the face. It is usually developed in connection with those *diseases which render breathing laborious* or *painful*, and is more common in children than in the adult as a sign of diagnostic value.

(6.) *The Linea Collateralis Nasi.*—This line extends from the nose downward to the chin, in a semicirclar direction. It lies outside of the linea buccalis, the linea nasalis, and the linea

Fig 5.—The Linea Collateralis Nasi.

labialis. It is thought to be a reliable guide to diseases of the *thoracic* and *abdominal viscera.**

Color of the Face.—The color of the face is subject to variations which to the eye of the medical adviser afford unquestioned aid in diagnosis. *Flushing* of the face, as evidenced by a diffused redness which is of a transient character, is very common in women suffering from irregularity of the menstrual periods and during the menopause. In plethora, especially after exertion or excitement, an unnatural redness of the face may

* Corfe, "Medical Times and Gazette," 1867.

occur, associated with symptoms indicative of cerebral hyperæmia. Pressure of tumors, either of the neck, or of the thorax, upon the sympathetic nerve may create an abnormal dilatation of the capillaries, thus resulting in a redness of the skin, with an increase of the temperature of the affected region; while section of the sympathetic nerve, although a rare form of accident, would result in a like condition.* *Red patches* occur on the cheek during an attack of croupous pneumonia. In wasting affections of a chronic character, especially of the lungs, such as phthisis, cancer, etc., a circumscribed redness over the malar bones, known as the "hectic flush," is usually present. It may occasionally affect only one cheek,† where only one lung is diseased. *Pallor* of the face is the rule during convalescence from any severe disease, and in patients long deprived of sunlight.‡ A *waxy pallor* exists in chronic Bright's disease, which renders the skin almost transparent. In the chill of fevers and malarial attacks, a *dusky paleness* is usually perceived; while in cases of hæmorrhage, where the loss of blood has been sufficient to produce constitutional effects, the pallor of the face assumes a peculiar *leaden color*.§ A *greenish tint* is present in profound attacks of anæmia and during chlorosis, ‖ giving to the face an appearance similar to that of imperfectly bleached wax.

Malaria and cancer are often manifested by a *light straw color* of the face, although it may occasionally result in the deep yellow of jaundice.¶ In the early stages of jaundice, the sclerotic coat of the eye and the corners of the mouth first show the *yellow color*, although the discoloration soon tends to become diffused over the entire face. A *blue tinge* exists in those cases where the venous return to the right heart is obstructed, or where, from any cause, the oxygenation of the blood is imperfectly performed. It occurs therefore in cynosis, asphyxia, the fevers, certain diseases of the pulmonary organs which interfere with the

* M. Foster.
† Stillé.
‡ Williams, op. cit.
§ Sir Charles Bell, "Treatise on Surgery."
‖ Niemeyer, "Text-Book of Practical Medicine." New York: D. Appleton & Co.
¶ Reynolds. "System of Medicine."

circulation, and in diseases of the heart which render its action weak or imperfect. In cases of poisoning from the nitrate of silver, the skin assumes a still deeper blue tint than in those cases above mentioned, and the staining is permanent. In Addison's disease of the supra-renal capsules a *dark-brown color* of the skin results, which may be either uniform or in isolated spots, and which may, in severe cases, almost rival the pigmentation of the negro. The redness of erysipelas is usually accompanied by an œdema which renders the face tense and shining, and which often causes a markedly altered expression of the countenance.

The face is the seat of many of the eruptions, some of which are confined almost exclusively to it, while others are usually found in that region before they appear elsewhere. It would exceed the limits of this article to enter into the description of the characters which stamp each of the various eruptions, since they can be easily learned by reference to any of the special treatises.

Corfe suggests as a guide to the student in physiognomy the following table, which designates the prevailing changes in the complexion of the face in the course of the more common disorders. While it is not possible to construct any table which shall give all the information desired upon so important a subject, still this one may prove of some value as a means of aiding the memory:

In cerebral disease.....	the countenance	is	lethargic.
In emphysema	"	"	livid.
In pulmonary œdema.....	"	"	dusky and distressed.
In pneumonia.....	"	"	dusky and flushed.
In pleurisy	"	"	pale and anxious.
In phthisis.....	"	"	pale and thin.
In malignant disease.....	"	"	sallow and thin.
In icterus.....	"	"	yellow and thin.
In renal disease.....	"	"	thin, puffy, and anæmic.
In peritonitis.....	"	"	anxious and dragged.
In uterine disease.....	"	"	sallow and haggard.

Marshall Hall* thus describes a countenance which he considers typical of the acute form of dyspepsia: "This affection is

* "On Diagnosis" London, 1817.

accompanied by some paleness or sallowness, and a dark hue about the eye. The lips are slightly pale and livid. The cutaneous vessels exude a little oily perspiration, and the muscles of the face, and especially of the chin and lips, are affected with a degree of tremor, particularly on any hurry or surprise, or on speaking."

THE NOSE.—The nostrils are of some practical interest from a medical point of view. They *dilate* forcibly and rapidly in difficult respiration, when produced by disease;* and *itching* of the nostril is regarded by many authors as a valuable diagnostic sign of intestinal worms.† The nose seldom points directly forward, being, as a rule, slightly inclined toward the right side. This fact is explained by Béclard as the result of the habit of wiping the nose with the right hand, since, in left-handed people, the opposite deflection exists. The nose of a face perfect in its outline should be one-third of the length of the distance from the root of the hair to the chin; but, in certain races, the variation from this rule affords a special physiognomy. The integument which covers the nose is very firmly attached to the muscles underneath it by a cellulo-fatty layer. Blandin‡ lays great stress upon this fact as explaining the infrequency of œdema of this region, and as an effort on the part of Nature to preserve the uniformity of contour of the nose, which would be seriously impaired by any local swelling of the face, were the skin over the nose loosely attached. The nose is extremely vascular; hence the custom of surgeons to replace severed portions of the organ, even if completely detached, with a hope of obtaining union. Among the ancients, amputation of the nose was practiced upon the criminal classes, and the operation of rhinoplasty was first suggested as a means of relief for those so disfigured.

The redness of the nose after an attack of crying indicates a connection between the sympathetic supply of the capillary vessels of the nose and that of the capillaries of the lachrymal apparatus; hence any form of irritation of either of these localities is liable to be accompanied by symptoms referable to

* Sir Charles Bell.
† Peiper.
‡ Op. cit.

the other.* Injury to the nose, resulting in fracture, often leaves a permanent facial deformity, and, even when no evidences of serious injury can be ascertained by external examination, cerebral symptoms are liable to follow, as fracture of the base of the skull may result, from a transmission of the force through the perpendicular plate of the ethmoid bone.† Vascular tumors of the region of the nose are not uncommon, while a prominence of the capillary vessels of the nose is met with in the aged as the result of a defect in the contractile power of their coats.‡

Marked elevation of the nostril is regarded by some authorities§ as an indicator of pain within the cavity of the thorax.

THE EYE.—"It may appear to many a superfluous task to attempt to judge of the character of an individual by a glance at his face, but, whatever may be thought of the possibility of laying down strict rules for such judgment, it is a fact of every-day occurrence that we are, almost without reflection on our part, impressed favorably or unfavorably with the temper and talents of others by the expression of their countenance. The face acquires its expression also from bodily habits and from intellectual or sensual pursuits, so that we may pass from the lofty and expanded forehead, with the small, well-formed mouth of the philosopher, down to the shallow front and protruded muzzle of the negro, whose habits are more bestial than those of the animals he chases for the support of his life."‖

The intimate communications between the fifth, the seventh, and the sympathetic nerves, through the media of the ciliary, optic, and Meckel's ganglia, would lead us to expect that the eye should exhibit, in its altered appearance, the derangement of internal structures. "When a glance of this organ is caught, what a field of mute expression is open to the mind! This silent and instructive index of the whole man may be bright or dull, heavy or clear, half shut or unnaturally open, sunken or protruded, fixed or oscillating, straight or distorted, staring or

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* Blandin, op. cit.
† Holden, "Human Osteology." London, 1855.
‡ Bé:lard.
§ Marshall Hall, op. cit.
‖ Corfe, op. cit.

twinkling, fiery or lethargic, anxious or distressed; again, it may be watery or dry, of a pale blue, or its white turned to yellow."*

The pupils may be contracted or widely dilated, insensible to or intolerant of light, oscillating or otherwise, unequal in size, or changed from their natural clearness of outline. The noble arch of the brow speaks its varied language in every face of suffering humanity. It may be overhanging or corrugated, raised or depressed; while the lid of the eye, an important part of this vault, exhibits alternations of puffiness or hollowness, of smoothness or unevenness, of darkness or paleness, of sallowness or brown discoloration, of white or purple. Lines intersect this region, and the varied tints are perpetually giving new color, new feature, new expression, by their shadows. If the frontal muscle acts in connection with the corrugator supercilii, an acute deflection upward is given to the inner part of the eyebrow, very different from the general action of the muscle, and decidedly expressive of debilitating pain, or of discontent, according to the prevailing cast of the rest of the countenance. An irregularity of the pupils of the two eyes indicates, as a rule, pressure upon nerve centers or upon the optic nerve itself.† In adynamic fevers the eyes are heavy and extremely sluggish, and are, as a rule, partially covered by the drooping eyelid; while in certain forms of mania they are seldom motionless.‡ This latter peculiarity is also often noticed in idiocy.

In the so called "Bell's paralysis," due to failure of the facial nerve, the eyelids stand wide open and can not be voluntarily closed, since the orbicularis palpebrarum muscle is paralyzed. This condition may be further recognized, if unilateral, by a smoothness of the affected side, since the antagonistic muscles tend to draw the face toward the side opposite to the one in which the muscular movement is impaired; an inability to place the mouth in the position of whistling, since for this act the two sides of the face must act in unison; loss of control of saliva, which dribbles from the corner of the mouth; and a tendency to

* Corfe, op. cit.

† Ferrier, "The Localization of Cerebral Disease." New York: G. P. Putnam's Sons, 1879.

‡ Connelly, *Med. Times and Gas.*, 1861–2.

accumulation of food in the cheek, since the buccinator muscle no longer acts.

FIG. 6.—"Bell's Paralysis." (Modified from Corfe.)

When the third pair of nerves are affected upon either side, the upper eyelid can not be voluntarily raised, for the levator palpebræ muscle fails to act; and the eye is caused to diverge outward, since the external rectus muscle, not being supplied by the third pair, and having no counterbalancing muscle, draws the eye from its line of parallelism with its fellow. In photophobia, attempts to open the eye create resistance on the part of the patient, since the entrance of light causes pain; while, as death approaches, or in the state of coma (save in a few exceptions),

the eyes are usually open. In cardiac hypertrophy an unusual brilliancy of the eye is perceived,* since the arterial system is overfilled from the additional power of the heart. A peculiar glistening stare exists during the course of scarlet fever, which is in marked contrast with the liquid, tender and watery eye of measles.† Many diseases of the eye itself tend to greatly alter the normal expression of the face. Prominently among these may be mentioned cataract, glaucoma, cancer, staphyloma, exophthalmus, iritis, conjunctivitis, amaurosis, etc., but the special peculiarities of each need not be here described.

Abnormalities of the pupils may afford the practitioner material aid in diagnosis. The pupils are found to be dilated during attacks of dyspnœa and after excessive muscular exertion,‡ in the latter stages of anæsthesia, and in cases of poisoning from belladonna and other drugs of similar action. A contracted state of the pupils exists during alcoholic excitement, in the early stages of anæsthesia from chloroform, and in poisoning by morphia and other preparations of opium, physostigmin, chloral, and some other drugs. Paralysis of the third cranial nerve creates a dilated condition of the pupil of the same side, since that nerve controls the circular fibers of the iris.

Growths within the deeper portions of the orbit tend to create a displacement of the eye forward, and thus to cause an apparent increase of that organ in size. A similar condition may also result from abscesses or the growth of tumors within the cavity of the antrum. In the so-called Basedow's disease,§ an abnormal prominence of the eyes accompanies a simultaneous enlargement of the thyroid gland. The eyelashes, if abnormal, not only in themselves create deformity, but also, by causing irritation of the conjunctiva, produce an alteration in the normal expression of the eye.

THE CHEEK.—The cheek is capable of a great variety of move-

* Loomis, "Lectures on Diseases of the Respiratory Organs, Heart and Kidneys." New York: William Wood & Co., 1874.

† J. Duggan, quoted by Haviland Hall: "Differential Diagnosis," Philadelphia, 1879.

‡ M. Foster, "Text-Book of Physiology," 3d ed. London: Macmillan & Co., 1879.

§ F. von Niemeyer, "Text-Book of Practical Medicine." Translated by Hackley and Humphrey. New York: D. Appleton & Co., 1869.

ment. During the reception of liquid or solid food into the mouth, it is of the greatest assistance, since by its movements the two acts are greatly facilitated; during mastication, the buccinator muscle helps to force the food between the jaws, which are brought into apposition and rubbed together; and, finally, the cheek can act as an important factor in producing that peculiar type of countenance which is so strongly indicative of the desire of taking nourishment. The respiratory motions of the cheek are manifested in the acts of gaping and blowing, and in the exhibition of intense passion, in which the malar region is markedly in sympathy with a general excitation of the whole respiratory apparatus.

The cheek may become the mirror of the soul. When the feelings are gay, it is drawn outward and upward; but, when the mind is depressed or saddened, it is drawn obliquely downward. If these movements be carefully noted, it will be perceived that the movable point of the cheek is situated in the immediate vicinity of the naso-labial groove;* since the attachments of several of the small fascial muscles at about this point tend to draw the anterior part of the cheek outward from the line of this groove. It may be noticed, as a matter of interest, that when the mental impressions are slight and trivial, no traces of their effect upon the face are left upon the cheek; but, when they are of a serious or prolonged character, deep and permanent grooves are formed, which are of interest to the physiognomist as an indication of the temperament, and to the medical adviser as often of positive value in diagnosis. In the young child, the cheek, which is at nearly the same instant alternately moistened with a tear or decked with a smile, preserves in the healthy state the roundness which marks that happy age; but in the adult, the cheek, on the contrary, presents numerous lines and wrinkles, and this appearance becomes still more apparent as old age approaches.

There are, however, lines in the cheeks of the aged which should not be mistaken for evidences either of the temper-

* Blandin, op. cit.

ament or of disease, since they are produced simply by the approximation of the jaws. Lavater,* in his work upon physiognomy, locates most of the sentiment of the face in the cheek, and draws comparisons between the base and jealous face and that which is generous and noble, as a support to his theory.

The color of the cheek varies much, both as a direct result of the passions and from special diseased conditions, which have been mentioned previously in this article. In fear and envy, the cheek is usually pale and colorless, while in love, embarrassment, or anger it is often uncommonly red. To the physiologist, these changes are a beautiful exhibition of the sympathy which exists between the mind and the circulatory and respiratory systems, which are seldom influenced except simultaneously. The changes in the cheek which affect expression, like the respiratory motions, depend chiefly upon the influence of the facial nerve; and thus it is that children and females, in whom the nervous system is generally more susceptible to impressions, also present, to the greatest degree, more or less transient modifications of the cheek. The cheek suffers a diminution in its fat as age advances, and when the teeth have been lost the approximation of the jaws forces the redundant cheek outward; and its flaccidity, from the loss of fatty tissue, throws it into folds, which are not present in the face of the infant.

The cheek approaches a triangular form in the infant, but it becomes quadrilateral when the teeth are developed; and in the old man, as the teeth are lost, it again returns to the triangular form as in infancy. The fact that the maxillary sinus is very imperfectly developed in the child, and gradually increases as age advances, explains to a great extent why the triangular form tends to become quadrilateral; and the frequency of abnormal protrusions of this region is explained by growths or the accumulation of fluid within this cavity. The changes in the cheek produced by advancing years are also illustrated in its color. In the child, the bright rose tint, which accompanies exertion and frequently the hours of sleep, bespeaks health and general activity; but in adult age this coloring tends to disappear, and in old age

* Op. cit., Hunter's edition.

the cheek often assumes a striated redness, which is due to an abnormal dilatation of the capillary vessels, especially the veins. The vascularity of the cheek renders the occurrence of erectile tumors common in this region; and the elasticity of the tissues affords an anatomical explanation of the little disfigurement which follows the removal of large portions of the cheek, in case surgical interference is demanded from any cause.

THE LIPS.—Certain deformities of the face are common in the region of the lips and mouth. Among these may be mentioned the condition of deficient closure, which is the normal condition of the hare, and to which the term "hare-lip" is applied. This deformity may be associated with that of fissure of the hard palate, and often with imperfect development of the soft palate; and thus not only is the countenance impaired, but the power of sucking, natural to the infant, is destroyed, and the articulation of words is subsequently rendered imperfect. The vascularity of the lips renders the development of erectile tumors of this region not infrequent; while hypertrophy of the tissues forming the lips may occur as one of the types of facial deformity.

The lips of the young child are very much longer in proportion to the face than those of the adult, and their increased length renders the act of sucking easier to the infant than if the teeth were present, since the lips can be made almost to cross each other and thus closely embrace the nipple. When the teeth are formed, the excessive length of the lips diminishes, and the expression of the face is thus greatly altered; while, in the old man, as the teeth are lost, the lips again become very long, which accounts for their projection forward when the mouth is closed, and which gives to those advanced in years the peculiar pouting expression so often seen.* The excessive length of the lips in the aged furthermore acts as a hindrance to mastication, and often renders the articulation of words extremely indistinct.

In sickness, if the angle of the mouth be depressed, pain and languor may be read; and, when the corrugator supercilii muscle

* Bandin, op. cit.

coöperates with the depressor muscles of the mouth, acute suffering is proclaimed.*

Extreme pallor of the lips is observed in excessive hæmorrhage, in purpura, in chlorosis, etc.; deep lividity denotes a defective oxygenation of the blood, and occurs chiefly in diseases of the lungs, heart, and larynx; while pale lividity occurs in cases where the circulation of the surface is languid or imperfect.† In painful affections of the abdominal organs, the upper lip is usually raised and stretched over the gums or teeth, so as to give a diagnostic expression to the countenance, which is considered by some as of great value. In anasarca of the face, the lips, eyes, and cheeks are most affected, since the subcutaneous cellular tissue in these regions admits of distention more readily than in those regions where it is not so loose.

DEFORMITIES OF THE FACE.—Among the extraordinary deformities of the orbital region, may be casually mentioned those rare cases of absence of the eyes, and the union of the two orbits, as reported by Tenon and Bartholine. The eyelids may also be found deficient or united at birth; and occasionally turned in or out, when the skin and the conjunctiva are of unequal length. The last type of deformity is most frequently the result of cicatrization of the tissues of the face, following an injury; while adhesions of the eyelids to the globe of the eye may be either a congenital defect or the result of inflammatory processes. The pupils may be absent at birth, or may be partially incomplete; ‡ while deformities of this aperture may also be acquired as the result of adhesions between the iris and the cornea or the crystalline lens, or as the result of an operation in which portions of the iris are exercised for the relief of glaucoma.

The entire absence of the face at the time of birth has been recorded by Lecart, Curtius, and Béclard; while in numerous instances the median portions of the face have been absent, or the existence of deep central fissures in the face has been detected. Cases are on record where all evidences of the existence of the nostrils are absent, termed "anarina"; those where the mouth has

* Corfe.
† Marshall Hall, op. cit.
‡ Blandin, op. cit.

been found absent, termed "astomia;" and those where a double nose has existed, as recorded by Béclard. In these abnormalities, as in those where the cranium has been partially or totally wanting, an arrest of the process of development at an early stage of fœtal life must have occurred, the date of which in pregnancy may be roughly estimated by the extent and situation of the deformity. In cases of senile atrophy of the forehead, the bones are sometimes completely absorbed, and hernia of the encephalon may thus spontaneously be produced.

Tumors of the face always create a deformity, which is confined to the anatomical region affected; some of which have already been referred to in this article in the treatment of certain of the special features. Many conditions of the face, which may properly be spoken of as deformities, are dependent upon disease. Some of those which affect the eye and its appendages, and others which are due to injury of nerves or to disease of nerve centers, will be described later on, among the special types of physiognomy which are of interest in their bearing upon general diagnosis. Severe types of ulceration, as it occurs in lupus and carcinoma, often create so extensive a destruction of tissue as to give rise to hideous deformities, but they have no special bearing upon the diagnosis of the existing disease.

SPECIAL TYPES OF FACE.—Many of the specific forms of disease have their special physiognomy. As examples of this fact, scrofulous children inherit either a velvety skin, dark-brown complexion, dark hair, dark brilliant eyes, and long lashes, with the lineaments of a face finely drawn and expressive; or a fair complexion, thick and swollen nose, broad chin, teeth irregular and developed late, inflammation of the Meibomian glands, scrofulous ophthalmia, eruptions of the head, nose and lips, and enlarged cervical glands.*

Hippocrates † describes a characteristic expression, which has been called from him the "facies Hippocratica," in which the eyebrows are knitted, the eyes are hollow and sunken, the nose is very sharp, the ears are cold, thin, and contracted, with

* Williams, op. cit.
† "Prognostics" (Adam's translation).

marked shriveling of the lobules; the face is pale and of a greenish, livid, or leaden hue; and the skin about the forehead is tense, dry, and hard. This type of countenance is a most frequent indicator of impending death from chronic disease, or in an acute form of disease which has been unusually prolonged.

The "facies stupida" is distinguished by a dullness of expression, which is its chief characteristic. A peculiarity exists as regards the eyes, which are extremely dull, and resemble those seen in alcoholic stupor. This type of countenance is identical with the so-called "typhoid face," since it is most frequently met with either in connection with typhoid fever or with the typhoid condition associated with some other disease.*

Another type of countenance to which attention is frequently drawn is called the "pinched countenance." It can be produced artificially by exposure to cold, and is characterized by an apparent decrease in the size of the face, with a contracted and drawn expression of the features, and pallor or livid color of the skin. It is said to exist most frequently in the course of acute peritoneal inflammation.

In the long list of diseases which tend to shut off the supply of air to the lungs more or less suddenly, and in those accidents, such as choking, strangulation, smothering, drowning, etc., where the same effect is accomplished, the symptoms of apnœa are manifested in the face by flushing and turgidity, at first, and later on, by a livid and purplish color. The veins of the neck become markedly swollen, and the eyes seem to protrude from their sockets. A loss of consciousness, and possibly convulsions, precedes death.†

The countenance of extreme anæmia is seen in those cases where from sudden or gradual hæmorrhage, the prognosis is rendered alarming. The phenomena which attend this mode of dying are pallor of the face, with a peculiar leaden or clay-like hue,‡ cold sweats, dimness of vision, dilated pupils, a slow, weak, irregular pulse, and speedy insensibility. With these symptoms

* Finlayson, "Clinical Diagnosis." Philadelphia: H. C. Lea, 1878.
† Watson, "Practice of Physic" (Condie's edition).
‡ Sir Charles Bell, op. cit.

are frequently conjoined nausea, restlessness and tossing of the limbs, transient delirium; a breathing which is irregular, sighing, and, at last, gasping; and convulsions before the scene closes.

FIG. 7.—Face after Hæmorrhage. (Modified from Corfe.)

The expression of the countenance is typically marked in certain of the inflammatory diseases of the eye.* In strumous ophthalmia, the child's brow is knit and contracted, while the ala nasi and the upper lip are drawn upward. Those muscles which tend to exclude the light from the inflamed organ, without shutting out the perception of external objects, are called into action; thus producing a peculiar and distinctive grin. In severe cases, the child will sulk all day in dark corners, or, if compelled to stay in bed, will bury the face in the pillow, since the exclusion of all light tends greatly to diminish the suffering. If brought to the window, the eyes are shaded with the hands or the arms;

* Haynes Walton, "Operative Ophthalmic Surgery." Philadelphia, 1853.

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and, if the eye be opened, a profusion of hot, scalding tears will enter the nose and give rise to sneezing, or flow over the face and cause excoriation of the adjoining parts. This special intolerance of light seems to be a chief characteristic of this type of trouble, since it is often greatly out of proportion to the redness which indicates the extent of the inflammation present. In catarrhal ophthalmia, the inflammation seems to be confined to the conjunctiva and the Meibomian follicles. The eyelids are glued together by the lashes, which are bathed in the excessive secretion of the conjunctiva or of the inflamed follicles; and a redness of the surface of the eye, with some pain and uneasiness, is the only other symptom of special diagnostic value.

The deformity of iritis is characterized by a redness of the sclerotic; a change in the color of the iris, and in its general appearance, as compared with the healthy eye; an irregularity in the pupil, produced by adhesion of the iris to the adjacent structures; possibly immobility of the pupil, as the result of such adhesions; and a visible deposit of coagulable lymph. The pupil, in acute iritis, seldom dilates in the dark, on account of the intense congestion which exists;* and it is usually smaller than that of the unaffected eye. Some pain and excessive photophobia are usually also present in attacks of acute iritis. There is something very peculiar in the expression of the countenance of a person suffering from amaurosis, by which alone the physician may almost recognize the disease. Such a patient enters a room with an air of great uncertainty as to movement; the eyes are not directed toward surrounding objects; the eyelids are wide open; and the patient seems gazing into vacancy. This unmeaning stare of the face is due, in great measure, to an absence of that harmony of movement and expression which results largely from the information obtained by the exercise of vision.† This seeming stare at nothing is not observed in patients who are blind in consequence of opacity of the crystalline lens or of its capsule, i. e., in consequence of cataract. They, on the contrary, while they cannot see, still seem to look

* See the experiments of Mosso, quoted by Michael Foster.

† Watson, op. cit.

about them, as if they were conscious that the power of sight remained in the retina, although the perception of objects was shut out from it. Patients, afflicted with cataract, who cannot detect the existence of a gas jet or a candle in a dark room, are not fit subjects for operation, as the existence of trouble behind the lens may safely be surmised; since the periphery of the lens seldom becomes opaque to such an extent as to prevent the perception of light by the retina, even if the outline of objects cannot be perceived.

The countenance of chronic hydrocephalus is perhaps the most typical of any of the conditions to which the attention of the physician or surgeon is directed. In it, the frontal bone is tilted forward, so that the forehead, instead of slanting a little backward, rises perpendicularly, or even juts out at its upper part, and overhangs the brow. The parietal bones bulge, above, toward the sides; the occiput is pushed backward; and the head becomes long, broad and deep, but flattened on the top. This, at least, is the most ordinary result. In some instances, however, the skull rises up in a conical form, like a sugar-loaf. Not unfrequently the whole head is irregularly deformed, the two sides being unsymmetrical. Some of these rarer varieties of form are fixed and connate; others are owing, probably, to the kind of external pressure to which the head has been subjected. While the skull may be rapidly enlarging, the bones of the face grow no faster than usual, perhaps not even so fast; and the disproportion that results gives an odd and peculiar physiognomy to the unhappy subjects of this calamity. They have not the usual round or oval face of childhood. The forehead is broad, and the outline of the features tapers toward the chin. The visage is triangular. The great disproportion in size between the head and the face is diagnostic of the disease, and would serve to distinguish the skull of the hydrocephalic child from that of a giant. In acute cerebral diseases, the countenance is either wild and excited, or lethargic and expressionless.*

Thoracic affections are all accompanied by more or less change in the color of the face; whereas the alteration in the natural

* Sir Charles Bell, op. cit.

hue of the features is so slight in abdominal diseases, that both the intellect and the complexion remain unaltered, up to the final struggle, though the pinched and dragged features express the acute sufferings of the patient. In pneumonia, the countenance is inanimate; the cheek, of a dusky hue, with a tinge of red; the eyelid droops over the globe; the brow is overhanging; the lips are dry, herpetic, and of a faint claret color; the chest is comparatively motionless, but the abdomen exhibits evidences of activity; the skin is hot; and the respiratory acts are usually about double the normal number, while the pulse is markedly accelerated. In cases where the dyspnœa is extreme, the patient, entirely regardless of what is going on about him, seems wholly occupied in respiring; is unable to lie down, and can scarcely speak; and the face becomes expressive of the greatest anxiety, while the expanded nostrils and their incessant movement indicate pulmonary distress.

In emphysema, the face is not only dusky but anæmic; the eyes are wide open, as the patient gazes at you; the dusky redness of the lips bespeaks the lack of proper oxygenation of the blood; the neck is thrown backward, and the mouth is slightly open, while the cheek is puffed out during the expiratory act; the distended nostril and the elevated brow stamp the case as one of dyspnœa; while the coldness of the skin shows that no acute inflammatory condition is present. If we see, in addition to these facial evidences of disease, the deformity of the chest which has been termed the "barrel-shaped" thorax, the shrugged shoulders, and the absence of that expansive movement so well marked in normal respiration, auscultation and percussion can hardly make the diagnosis more positive.

There are certain facial conditions, which so clearly tell, to the student of physiognomy, of the existence of that most prominent sign of many pulmonary and cardiac diseases, dyspnœa, that it may be well to enumerate the alterations from the normal countenance which chiefly indicate this condition. In all cases where dyspnœa is present, the brows will usually be found to be raised; the eyes will be full, staring, and clear; the nostril will be dilated, and often it may be seen to move with each respiratory

act;* the mouth will commonly stand partly open, while its angles will be drawn outward and upward; the upper lip will be elevated, so as to show the margins of the teeth; and the utterance of the patient will be monosyllabic, as the rapidity of breathing renders the utterance of long sentences a matter of extreme

FIG. 8.—Countenance of Emphysema. (Modified from Corfe.)

difficulty. When we add to these symptoms those of imperfect oxygenation of blood, as is met with in all conditions where the free entrance of air is in any way interfered with, we can better understand how the clear eye becomes stupid, as coma approaches, from the carbonic-acid poisoning, and the face cyanotic from the venous tinge of the blood. It thus becomes possible for the stu-

* Lavater, op. cit.; Sir Charles Bell, "Anatomy of Expression."

dent to picture to himself the countenance which must exist in such conditions as acute laryngitis, spasmodic and true croup, thoracic tumors which cause pressure upon the lungs or the trachea, and the various conditions of the lung itself, which impede the entrance of air to the organ, but which are not of inflammatory origin, and which have, for that reason, no distinctive physiognomy.

FIG. 9.—Cardiac Dyspnœa. (Modified from Corfe.)

In cases where renal dropsy has stamped its characteristic marks upon the countenance, we may perceive the signs of dyspnœa, due to the accompanying œdema of the lungs, in the corrugated forehead, the raised eyebrow, the dilated and waving nostrils; the corners of the mouth will be found to be drawn downward and outward, expressive of some disease of the abdominal cavity; the eye will be full and anxious, indicative of suffering long continued and borne with patient calmness; the conjunctiva may present that pellucid and bleb-like condition, so often seen in this type of disease, and an œdema of the eyelid

may greatly alter its appearance; finally, the waxy pallor of the complexion and the pasty and bloated cheeks show the profound anæmia of the patient.

Chronic diseases of the abdominal cavity are usually characterized by a languor of the eye and by an absence of that flash of alarm so peculiar to the acute forms of abdominal trouble;* and, if attended with steadily increasing danger to life, the corrugated brow and eyelid, the retraction of the cheek, the dragged and elongated nostrils, the depressed angles of the mouth, the protruded chin, and the parted lips, with the teeth firmly clinched behind them, still further proclaim the seat of the disease.†

FIG. 10—Face of a Patient with Obstruction at the Pyloric Orifice.

The pale face, stamped with the signs of anxiety and distress; the head raised upon two or three pillows, and the trunk similarly supported; the knitted brow, which bespeaks the cerebral disturbance; the nostrils, waving to and fro with each breath; and the jugulars which, as they lie exposed in

* Corfe, op. cit.

† M. Louis, quoted by Marshall Hall, op. cit.

the throat, show that the valves of the heart are acting imperfectly, by their pulsation or unusual distention; all may be

FIG. 11.—Cancer of the Abdominal Cavity. (Modified from Corfe.)

found in endocardial or pericardial inflammation, or in conditions of the heart dependent upon chronic valvular disease.*

The countenance of continued fevers is liable to receive a modification from their complication with some morbid affection of the head, the viscera of the thorax, or of the abdomen; the dejection produced by the latter of which is among the most important objects in the clinical study of these diseases.† In scurvy, the dirty ashy hue of the skin and its characteristic dryness; the blue and bleeding gums; the emaciation and the frequent indurations of the inter-muscular tissue of the cheeks;

* Corvisart, "Diseases of the Heart," Gates's translation. Boston, 1812.
† Marshall Hall, op. cit.

the sunken eyes, surrounded by a blue ring; and the livid tinge of the lips, make the diagnosis positive at once.

In Graves's, or Basedow's, disease, a peculiarity of the eye is produced, due to its partial protrusion from the orbit, probably from an increase of the intra-orbital fat, which stamps the disease beyond a possibility of error in diagnosis. In many cases, the inability to approximate the lids, and an absence of power to move the eye, on account of the paralysis of the muscles from the stretching which they have undergone, furnish evidence also of disease of that organ which enhances the facial deformity.

In Asiatic cholera, and in children during attacks of profuse diarrhœa, the eyeballs sink into the orbit, a dark ecchymosis appears in the region of the eyes, the lower eyelid forms a prominent fold in the region of its attachment to the cheek, the nose is pointed and sharp, and the lips, normally ruddy and full, become thin and sharply outlined. These changes are chiefly dependent upon a rapid emaciation, which follows the withdrawal of a large proportion of the water from the tissues.* In chronic atrophy, the entire absence of the adipose tissue in the subcutaneous structures causes the skin to become loose and corrugated; while various muscles become prominent from contraction (chiefly the frontalis, the corrugator supercilii, and the levator labii superioris).† Thus the so-called "senile face" or "Voltairean countenance" is produced, which is seldom to be mistaken in the child.‡

Among the diseases of the nervous system, there are certain types of physiognomy which are so characteristic as to be of the most positive value in diagnosis. Thus, in the attacks of epilepsy, the neck at first becomes twisted, the chin raised, and brought round by a series of jerks toward one shoulder. The features are greatly distorted. The brow is knit; the eyes are sometimes fixed and staring, at other times rolling about in the orbit, and again turned up beneath the eyelid, so that the cornea is covered and only the white sclerotic is to be seen; the mouth

* Vogel, op. cit.
† Marshal Hall, op. cit.
‡ Vogel, op. cit.

is twisted to one side and distorted; the tongue is thrust between the teeth, and, caught by the violent closure of the jaws, is bitten, often severely; and the foam which issues from the mouth is reddened with blood. The turgescence of the face indicates obstruction of the venous circulation; the cheeks become purplish and livid, and the veins of the neck are visibly distended.

The expressions of the countenance which are produced by paralysis of any of the special nerves of the face have striking peculiarities which enable the skillful anatomist to easily detect the nerve affected. It is important to remember that, if paralysis of any nerve be the result of any form of external injury, a danger is presented in the form of tetanus, which should be guarded against by a quick comprehension of the existing malady and by all known precautions, applied with judgment based on the anatomical course and relations of the nerve affected. It is also well to bear in mind the fact, that any form of severe external violence about the face may, by causing a fracture of the bones through transmission of the force applied, cause injury to some special nerve whose course may lie far distant from the apparent seat of injury. It is not infrequent to find a fracture of the superior maxillary bone followed by symptoms indicative of a foreign body within the cavity of the antrum; and symptoms of irritation of the nasal mucous membrane, or of neuralgia of some of the principal nerve trunks distributed to the face, may likewise follow such an accident. Violence to the vault of the skull may produce not only cerebral lesions and their subsequent evidences in the face and body, but also types of local paralysis,* produced by injury to some of the more important nerve trunks at their point of escape from the skull, in case the base of the skull has been injured.

"A slight tremor of the lips; a hesitation of utterance; a partial loss of power over the lips and tongue, which seem to have lost their grip, as it were, over the consonants; a characteristic stillness of all the muscles of expression; and a slight disparity in the pupils are the predominant features of the early

* Holden, op. cit.

stage of development of the general paralysis of the insane." * In those rare cases where the facial nerve of both sides is impaired, symptoms similar to those mentioned above exist, except that the tongue has its normal capabilities of movement, save in the perfect articulation of the labial consonants only, and that a complete absence of facial expression is present. An open mouth; a loss of control over the saliva, which constantly dribbles; an awkwardly moving or motionless tongue; and an indistinct articulation render the labio-glosso-laryngeal paralysis of Trousseau and Duchenne easy of detection.† In the so-called Bell's paralysis,‡ which has been described in previous pages of this article, the patient can not laugh, weep, or frown, or express any feeling or emotion with one side of the face; while the features of the other may be in full play. One half of the aspect is that of a sleeping or dead person; while the other half is alive and merry. This incongruity would be ludicrously droll, were it not so frightful and distressing.

During the fit of exacerbation, in an attack of tetanus, the aspect of the sufferer is sometimes frightful. The forehead is corrugated and the brow knit, thus expressing the most severe type of bodily suffering; the orbicularis muscle of the eye is rigid, and the eye itself staring and motionless; the nostril is widely dilated, indicating the extreme dyspnœa; the corners of the mouth are drawn back, exposing the teeth, which are firmly clinched together; and the features, as a whole, have a fixed and ghastly grin—the so-called "risus sardonicus." During such paroxysms, as in those of epilepsy, the tongue is liable to become protruded between the teeth and to be severely bitten.

In chorea, the facial muscles participate in the general eccentricity of movement. Watson§ thus describes the peculiarities of this strange affection: "The voluntary muscles are moved in that capricious and fantastic way in which we might fancy they would be moved, if some invisible mischievous being, some Puck or Robin Goodfellow, were behind the patient and prompted the

* W. H. Gairdner, Article on "Medical Physiognomy," in Finlayson's "Clinical Diagnosis."
† Finlayson, op. cit.
‡ Sir Charles Bell, op. cit.
§ Op. cit.

discordant gestures. With all this, the articulation is impeded; there is the same perverse interference with the muscles concerned in the utterance of the voice. By a strong figure of speech, the disorder might be called 'insanity of the muscles.'"

In catalepsy, the patient lies often with eyes open and staring, yet without expression indicative of life; more like a wax figure or a corpse than like a living subject. The features may be made to assume any expression, no matter how absurd, as the tissues have their normal pliability; and they will remain so placed until again mechanically altered. This same peculiarity is also present in the muscles of the extremities, and forms one of the distinguishing tests of the disease. The mental faculties are in abeyance, and all power of voluntary motion is lost. The sensibility of the body seems also to be lost.

The deformities of face and intellect which seem to be the result of residence in special atmospheric conditions, or of certain well-defined localities, are illustrated in that race of people found in Valais and the adjoining cantons of Switizerland, called "cretins." Many of these wretches are incapable of articulate speech; some are blind, some are deaf, and some suffer from all of these privations. They are mostly dwarfish in stature, with large heads, wide vacant features, goggle eyes, short crooked limbs, and swollen bellies. The worst of them are insensible to the decencies of Nature, and in no class of mortals is the impress of humanity so pitiably defaced. They are usually the descendants of parents afflicted with goître.

In that long list of pathological conditions in which the brain may be subjected to more or less compression of its substance, there are certain signs of positive value in diagnosis which may often assist the medical practitioner to locate the disease. Thus, in depressed fracture of the inner table of the skull, where the signs of external injury are absent; in abscess within the cranial cavity, during the course of meningeal inflammations; in apoplexy; in the development of intra-cranial tumors, etc., the eyelids will usually be closed and immovable; the pupils generally dilated or irregular, and always sluggish and less sensible to light than in health; the breathing will be slow and stertorous if coma exists; the special senses will be in abeyance; and the tempera-

ture will be either normal or increased. The evidences of a paralyzed condition of certain of the cranial nerves may also exist, and thus afford an additional means of determining the exact seat of the disease. A rigidity of certain muscles, if present, denotes some special irritation of the nerves which supply them, and it is, therefore, seldom present in cerebral softening, but frequently so in those cases where paralysis is produced by pressure upon nerve centers. In cases where the fifth cranial

FIG. 12.—Partial Paralysis of the Facial Nerve from Disease near the Pons Varolii. (Modified from Corfe.)

nerve has been impaired by pressure, injury, or disease, the prominent symptoms are a redness of the conjunctiva on the side of the face supplied by the affected nerve; insensibility of the cornea, nostril, and tongue on the same side; a dullness of hearing; a partial or complete loss of smell, sight, and occasionally of taste also in the anterior two-thirds of the lateral half of the

tongue; and a diseased state of the gums, similar to that observed in scurvy.

While many typical varieties of countenance, which are of value to the diagnostician, have been omitted, since the limits of a single article have possibly been already overstepped, still it is to be hoped that the facts mentioned, although they are but fragmentary jottings, may tend to kindle among the medical profession a renewed interest in a subject which is rapidly being lost sight of, and the value of which is often ignored. It is not to be expected that sight alone can guide the medical attendant to unerring diagnosis; but that it may prove of the greatest value *as an aid*, can not, I think, be disputed. It is to be remembered, that a direct perceptive faculty, like that of touch, hearing, or smell, *grows with use*, and is capable of unlimited development. As with the musician, an instrument which at first produced discords becomes, under skillful hands, one of melody; so the enlightened and accomplished practitioner may often see at a glance what, to one unaccustomed to note facial changes or to interpret their meaning, would escape detection, unless a special effort was made to note and record systematically the peculiarities of each particular feature and anatomical region of the face, and the records afterward studied, as the mariner studies his chart before he attempts to direct his vessel through channels with which he is not perfectly familiar.

A NEW medical association has been organized in Deadwood, Dakotah Territory, with the following officers: President, Dr. J. J. Houghton; vice-president, Dr. O. B. Thompson; corresponding secretary, Dr. J. C. O'Neall; secretary, Dr. B. B. Kelly. The other members are Drs. D. K. Dickinson, Lead City, D. T.; J. A. J. Martin, Rockford, D. T.; Wm. H. Dyre, Galena, D. T.; Henry Hunter, Deadwood, D. T., and H. Williams, Central City, D. T.

THE next Annual Meeeting of the Illinois State Board of Health will be held at Springfield, Ill., January 12, 1881.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Jan. 3 and 17.
West Chicago Medical Society—Mondays, Jan. 10 and 24.
Biological Society—Wednesday, Jan. 5.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.